10895

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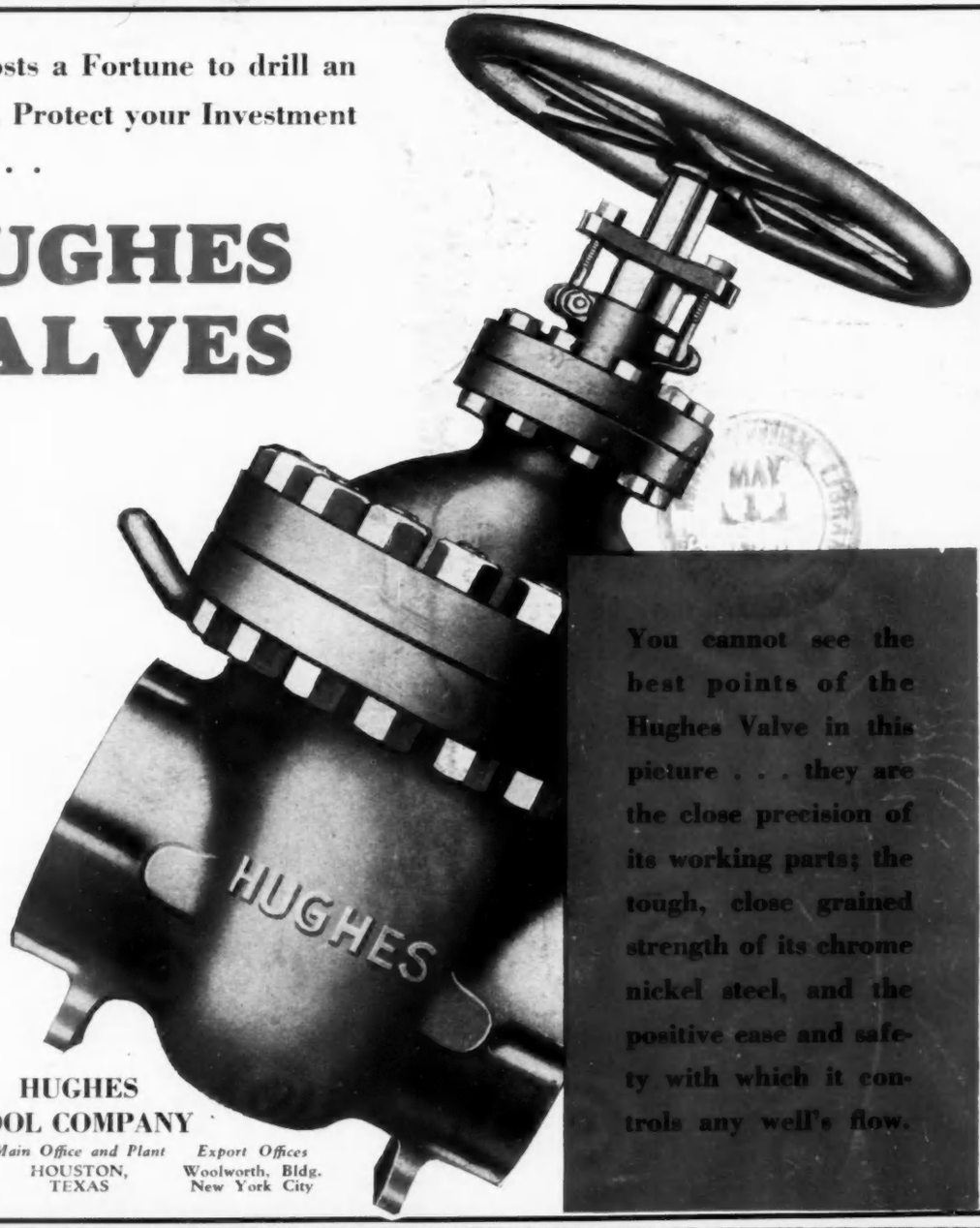
THE OIL WEEKLY

OIL & GAS ENGINEERING

News Statistics

. . . it Costs a Fortune to drill an oil well . . . Protect your Investment by using . . .

HUGHES VALVES



You cannot see the best points of the Hughes Valve in this picture . . . they are the close precision of its working parts; the tough, close grained strength of its chrome nickel steel, and the positive ease and safety with which it controls any well's flow.

HUGHES TOOL COMPANY

Service Plants Los Angeles, Oklahoma City, Midland

Main Office and Plant HOUSTON, TEXAS

Export Offices Woolworth, Bldg. New York City

April 24, 1931

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REGAN HI-PRESSURE OIL SAVER

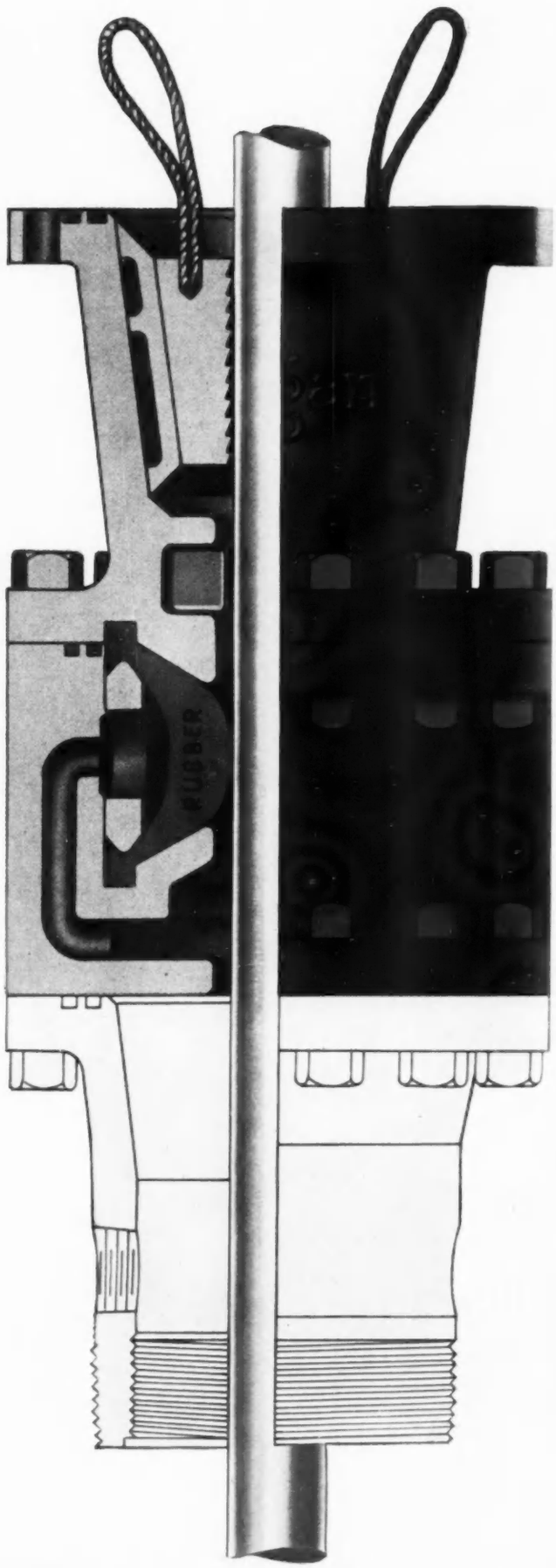
Running Tubing with SAFETY

The new Regan Hi-Pressure Oil Saver provides the most reliable method of running or pulling tubing in all wells having a tendency to head. In combination with the Regan Adjustable Type Tubing Head it can be advantageously used for moving or adjusting tubing against pressure and can be used in all wells in which tubing can be run in by gravity.

The seal is effected by automatically applying the confined well pressure around the outside of the rubber sleeve.

This Oil Saver reduces fire hazard, eliminates a danger element to workmen and prevents loss of oil and gas.

Regan Oil Savers are made in two types — for high and low pressures. Ask for Bulletins.



Regan
Forge & Engineering Co.
Oil Field Equipment
Plant and General Offices:
SAN PEDRO (Los Angeles Harbor) CALIFORNIA, U. S. A.

New York Office
75 West Street
Wm. Braat, Manager

Mid-Continent Office
Dallas, Texas
501-2 Marvin Building
Oklahoma City, Okla.
2420 W. 21st Street

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An IMPROVED

Timken Tapered Roller Bearings—sealed off from crankcase

▼

Monel Metal Valves of light construction—with Bronze Seats

▼

No overlap of Piston Rods

Large Capacity SUCTION PUMP . . . also suitable for Discharge Service where large Capacity and low pressure are called for

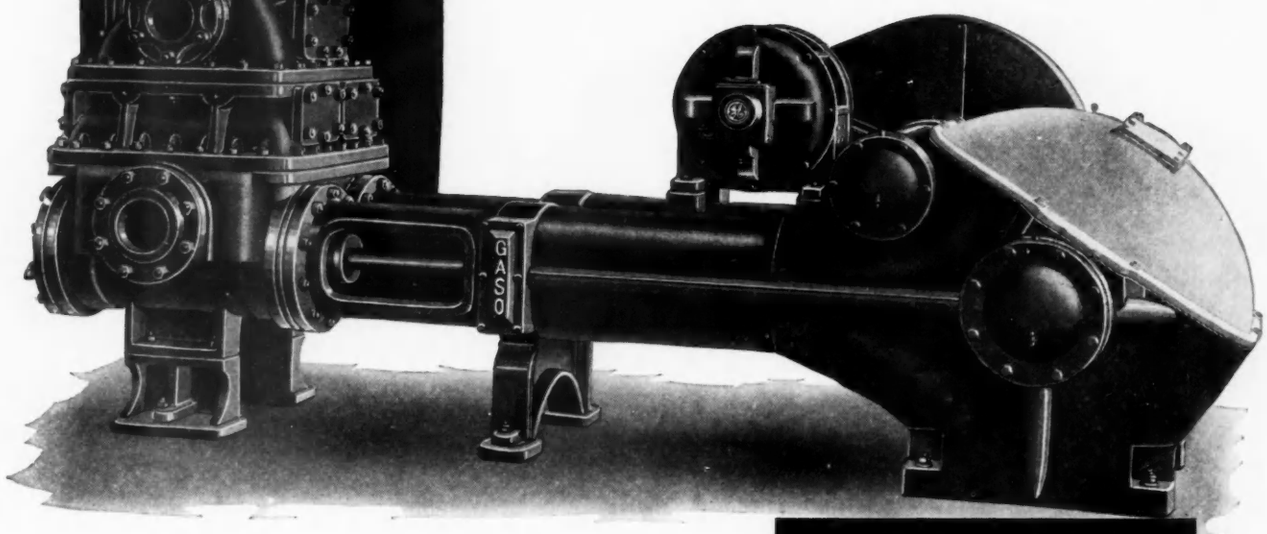


Fig. 1931 GASO Enclosed Type Timken Bearing Suction Pump With Interchangeable Liners from 6" to 10" and with 18" Stroke

Send us your requirements for full information on Gaso Pumps for any purpose.

GASO PUMP & BURNER MFG. CO.
TULSA, OKLA. EXPORT OFFICE: NEW YORK, N. Y.

Wide face, stub tooth semi-steel Gear and forged steel Pinion Gear, running in oil—silent and efficient

▼

Connecting Rod Crank End is equipped with steel removable shell bearing, babbit lined.

GASO PUMPS

for every oil industry need

AMERICAN STEEL & WIRE COMPANY WIRE LINES

Where Dependability is Vital

In the oil fields—where uninterrupted service is vital—the selection of wire lines deserves more than ordinary care. Because of their proved dependability and greater economy, most operators specify American Steel & Wire Company Wire Lines. It will pay you to know why in detail. Our engineers, in the oil country, will gladly assist you in solving your wire line problems.

By using a Flattened Strand Line for Rotary Drilling, a much larger per cent of the surface of the strand is put in contact with the sheave or drum, in fact, the wearing surface is from 100 to 150 per cent greater than in lines of other constructions.

1831 COMMEMORATING AMERICAN STEEL & WIRE COMPANY 100 YEARS of PROGRESS IN WIRE MAKING 1931

AMERICAN STEEL & WIRE COMPANY

208 South La Salle Street, Chicago SUBSIDIARY OF UNITED STATES STEEL CORPORATION And All Principal Cities

Pacific Coast Distributors: Columbia Steel Company, Russ Building, San Francisco *Export Distributors:* United States Steel Products Company, New York

EVERY sixth man employed in the J & L Seamless Tube Department is *your* man, as truly as though he were on your payroll. Five out of every six *make* J & L Seamless Pipe; the sixth man—*your* man—inspects it.

You'll find this sixth man making chemical tests of raw materials; analyzing the steel for chemical and physical properties; checking the bloom pickling; examining the seamless pipe; verifying the wall thickness; checking pitch and taper of threads; inspecting couplings; rechecking all previous inspections; testing hydrostatically, and finally going all over the finished job.

Every sixth man, *your* man, is always looking for trouble and flaws, so that you won't have to. He makes sure that rejections are made at the mill, and not in the field. He's one of the big reasons why oil men regard the "J & L" mark on pipe as a complete guarantee of uniform quality, dependable service and long-time satisfaction.

JONES & LAUGHLIN STEEL CORPORATION

AMERICAN IRON AND STEEL WORKS

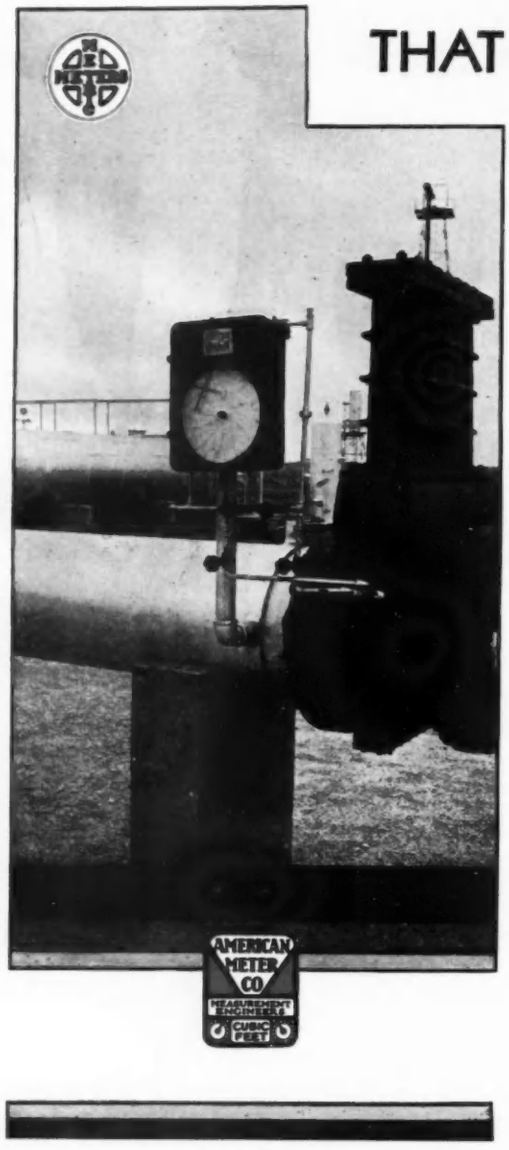
JONES & LAUGHLIN BUILDING, PITTSBURGH, PENNSYLVANIA

J&L STEEL

Manufacturers of Seamless and Welded Casing, Tubing, Drill Pipe and Line Pipe, and Welded Steam, Gas and Water Pipe in both Black and Galvanized

Also makers of Bars, Shapes and Plates, Reinforcing Bars, Cold Finished Steel, Junior Beams, Steel Piling, Fabricated Structural Work, Steel Barges, Wire Products and Tin Mill Products

Meters



THAT WITHSTAND THE RIGORS OF FIELD SERVICE

Long-lived, reliable operation under the most exacting conditions of field service—that is the rigorous test which has given Westcott Orifice Meters recognized leadership. These meters have consistently demonstrated extreme ruggedness combined with lasting precision.

Sandstorms, rain, and snow; deposits in orifice meters due to the incomplete separation of gas and crude oil, rapidly heading wells, faulty regulators, chattering check valves—these and other factors comprise the rigors of service out in the fields.

To meet them effectively, Westcott Orifice Meters are skillfully designed for easy removal whenever dismantling, cleaning, and reassembling becomes necessary. By taking off the cover casting every working part is accessible without the need of changing adjustments.

To check and zero the meter is also convenient. Adjustments are made without disturbing any of the working parts. Both before and after zeroing, a Westcott Meter will be found accurate to the smallest visible reading.

Invented, designed, and developed by men with a lifetime of field experience, the Westcott Orifice Meter is built to maintain accuracy of measurement under the conditions that it must encounter in use.

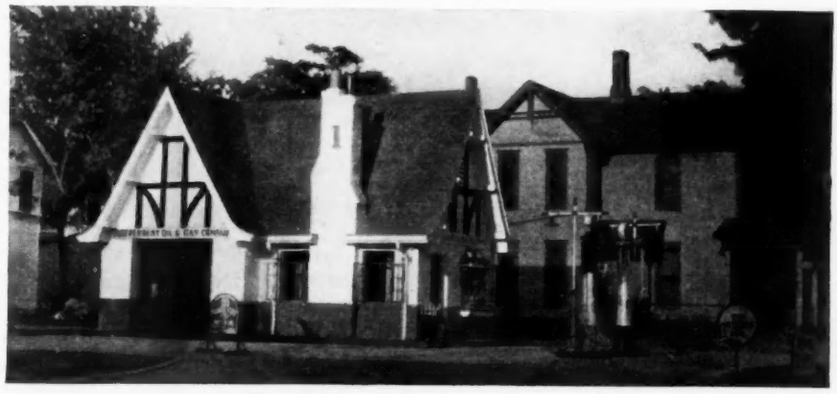
METRIC METAL WORKS
ERIE, PENNSYLVANIA
Indicase, Tinned Steel Case and Orifice Meters
AMERICAN METER COMPANY
INCORPORATED
The World's Largest Manufacturers of Gas Meters and Allied Apparatus
Established 1836

SALES . . . ERIE - DALLAS - TULSA - DENVER - LOS ANGELES - SAN FRANCISCO - KANSAS CITY - BIRMINGHAM
SERVICE . . PITTSBURGH - CHICAGO - PHILADELPHIA - NEW YORK - BALTIMORE - BOSTON - ALBANY - HOUSTON

DULUX FINISH Keeps it's COLOR AND GLOSS

50% to 100% longer?

YES . . . Three-year field tests indicate this superiority over ordinary oil and varnish types of finishes where appearance is important.



A white that stays white regardless of climate is ideal for service stations such as this. And Dulux gives that white.

HOW to keep filling stations looking spick and span? How to finish curb pumps and lubesters so as to keep them looking bright and colorful? How to finish tank wagons and other marketing equipment which meets the public eye constantly?

There is public good will involved here. And your maintenance costs depend on your answer. For these very reasons, du Pont offers Dulux Finish.

Dulux is not entirely new to the oil industry. Leading companies are using it now and plan to standardize on it for all their equipment. But first du Pont spent thousands of dollars testing Dulux under conditions of actual service.

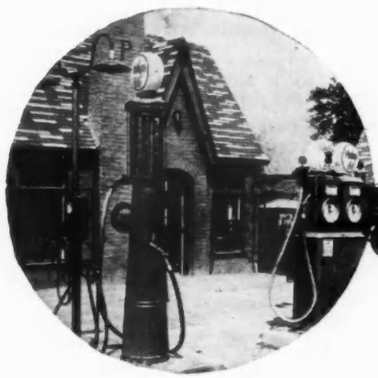
One thing all tests showed—that Dulux retains its color and gloss and original appearance 50% to 100% longer than the types of finishes in use.

And the second important point is that Dulux lasts 50% to 100% longer than ordinary finishes.

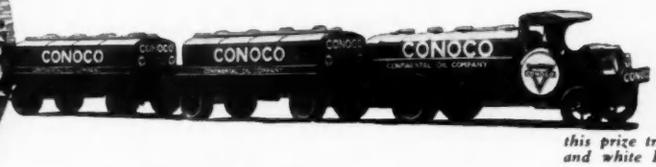
DULUX FINISHES wear away so slowly that they still give full protection to the covered surface after ordinary films have cracked, peeled, scaled and exposed the wood or metal underneath. They are impervious to moisture. They resist to a remarkable degree the action of petroleum, petroleum solvents, and ordinary destructive gases.

Dulux finishes are impervious to moisture. They resist the action of petroleum solvents, destructive gases, and the film-shattering ultra-violet rays of sunlight.

In this year of striving to cut costs and save money, Dulux answers a great need in the oil industry. Let us tell you what we are telling other oil men about this remarkable new chemical development—as important as was Duco for the automotive industry. Your request will bring a technical bulletin on Dulux which contains some of the most interesting reading you ever received. Write E. I. du Pont de Nemours & Co., Dept M4, 1616 Walnut St., Philadelphia, or 351 California St., San Francisco.



The Phillips Petroleum Company was one of the first in the oil industry to adopt Dulux for all equipment, from refineries right down to filling stations.

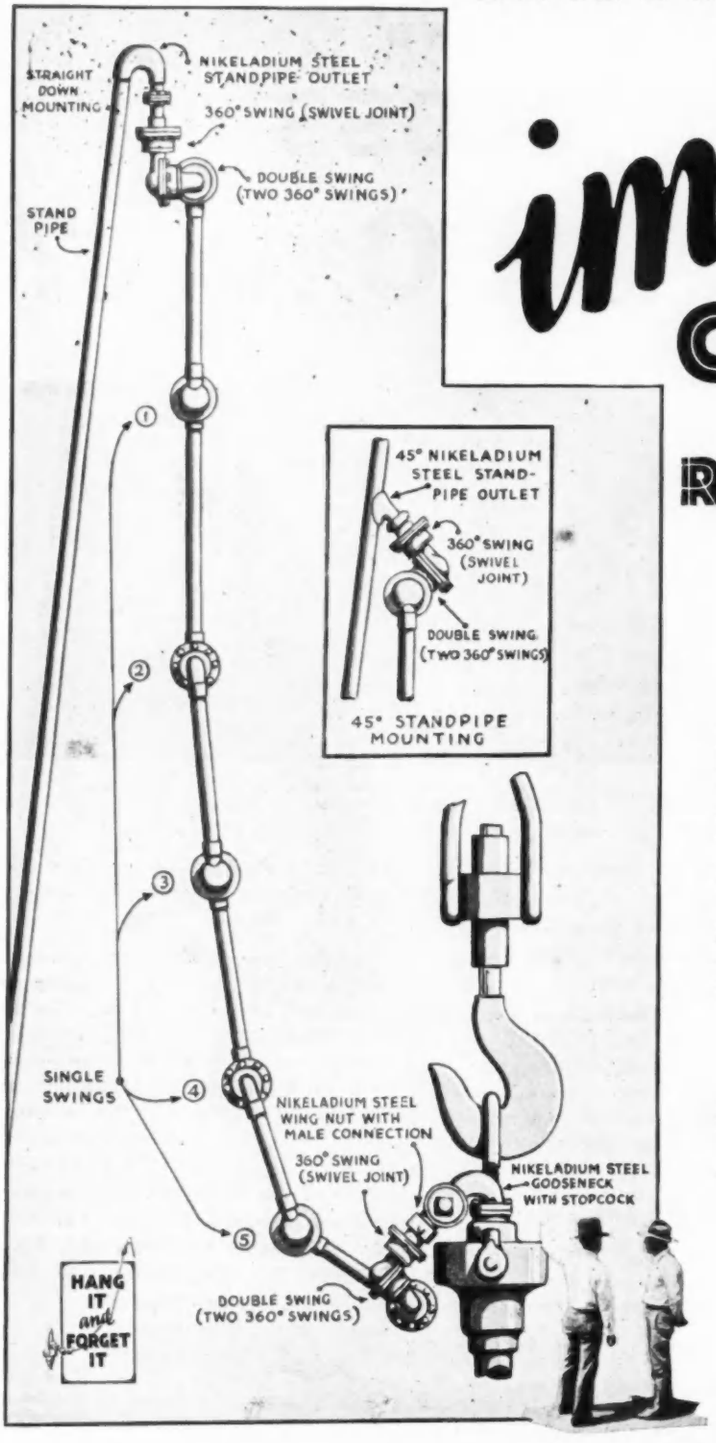


Linking low distribution costs to lower maintenance costs. The Continental Oil Company profits also by the improved appearance of this prize truck and trailer train in red and white Dulux.

DU PONT **DULUX**

REG. U. S. PAT. OFF.

Here's the *improved* CHAMPION *all-steel* ROTARY HOSE


STRAIGHT DOWN MOUNTING
NIKELADIUM STEEL STANDPIPE OUTLET
360° SWING (SWIVEL JOINT)
DOUBLE SWING (TWO 360° SWINGS)
STAND PIPE
45° NIKELADIUM STEEL STAND-PIPE OUTLET
360° SWING (SWIVEL JOINT)
DOUBLE SWING (TWO 360° SWINGS)
45° STANDPIPE MOUNTING
SINGLE SWINGS
NIKELADIUM STEEL WING NUT WITH MALE CONNECTION
360° SWING (SWIVEL JOINT)
NIKELADIUM STEEL GOOSENECK WITH STOPCOCK
DOUBLE SWING (TWO 360° SWINGS)
HANG IT and FORGET IT

Greater Flexibility!
Greater Strength!
Greater Safety!
Greater Economy thru increased service life!

"Here's the IMPROVED Champion *All-Steel* Rotary Hose . . . the hose that High Pressures, Severe Drilling Abuses and *Demanded* Hose economies *built!* This hose, in our opinion, represents the finest product ever offered to the drilling fraternity of the oil industry. It has the Greatest Safety Factor, the Greatest Flexibility, the Greatest "All-around" Rig-performance Ability of *any* steel drilling hose offered to the trade at the present time. It is THE hose that you should use on EVERY drilling job!

We will be pleased to send you complete data if you desire it.

Champion & Barber
INCORPORATED

506 Subway Terminal Bldg.
LOS ANGELES, CALIF.
Telephone MUtual 2756

Mid-Continent Distributors
BAILEY & BECKER CO.,
210 Tuloma Building, Tulsa, Oklahoma

Gulf Coast Distributors
BETTIS SALES CO.,
917 Merchants & Manufacturers Building, Houston, Texas

Export Distributor
W. S. FELLOWS, 39 Cortlandt St., New York, N. Y.

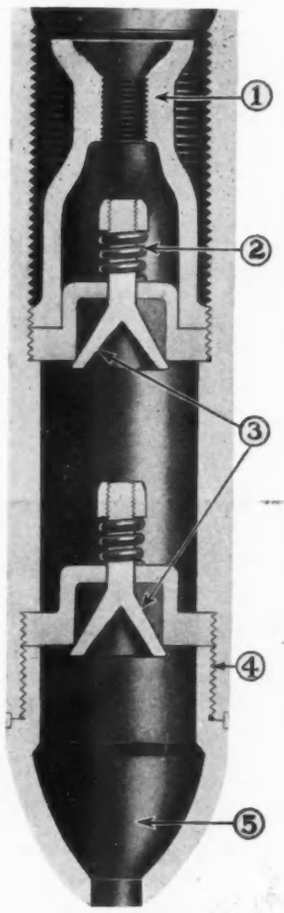
CHAMPION ALL-STEEL *improved* ROTARY HOSE

If you want to produce

MORE OIL

use a

STANCLIFF SCREEN



Stands Hard Usage

without misplacing wires, thereby not changing the gauge. Every part of this screen is made rugged.

***Has often been set through whip stock* jobs without tearing the wire, thus winning the reputation among oil men for being as "*tough as the pipe itself.*"**

Used by many of the largest producing companies in the world.

(PATENTED)

SMITH SET-SHOE

Obviates trapping of trash under the valve seat . . . firm seating of back pressure valve when pressure is relieved . . . left hand threading on shoe permits drilling out of guide plug for deeper drilling. USE A SMITH SET-SHOE.

All the Surface Is Screening Surface

Square wire is used to give greater life without "sanding"; also to make cleaning the well easy . . . . spacing lugs are from top to bottom of wire assuring uniform gauge and the wires maintaining their position.

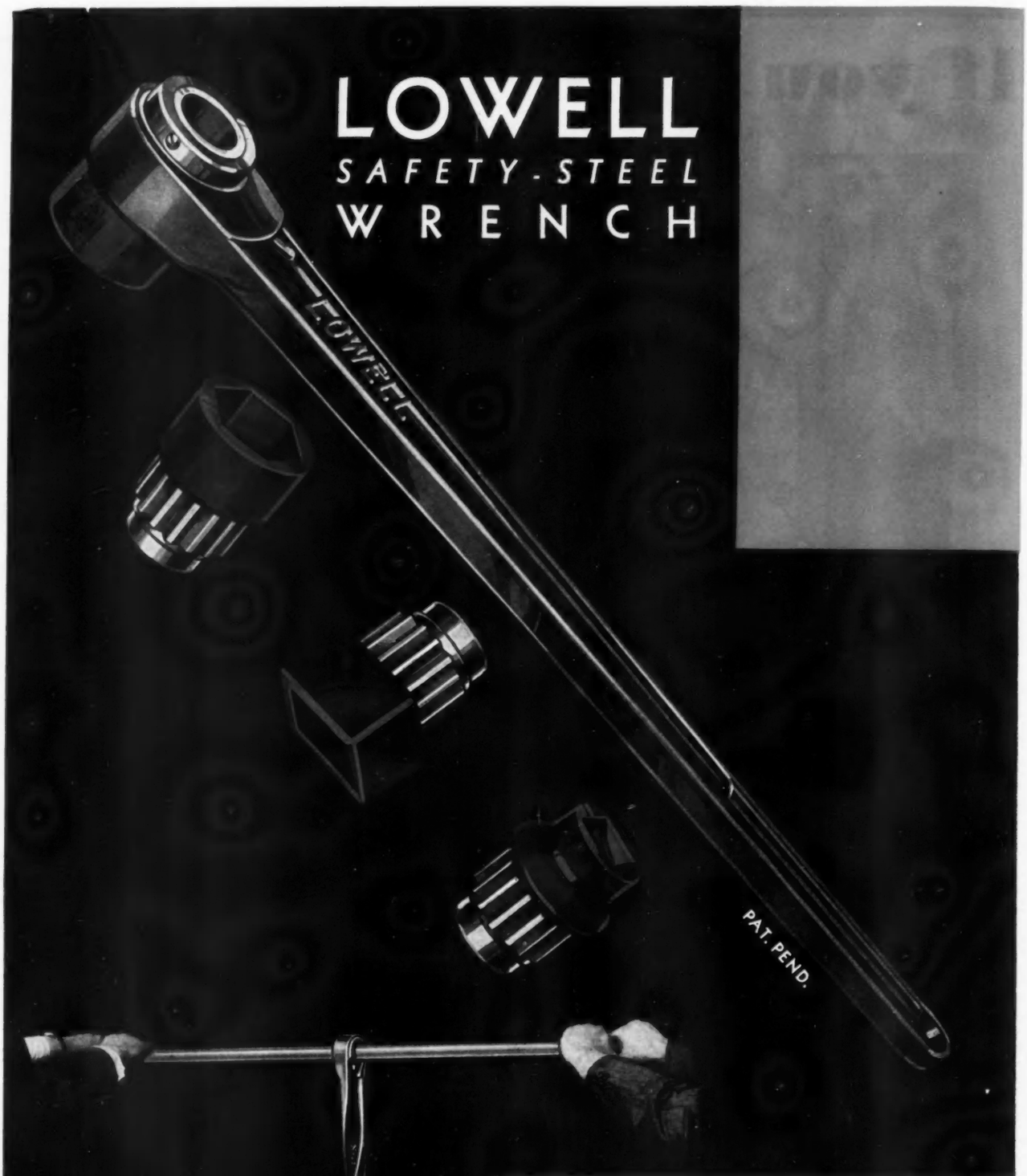
FOR MORE OIL
QUICKER and a well that PRODUCES LONGER
use a
STANCLIFF SCREEN

HOWARD SMITH COMPANY

2412 Railroad Avenue at Sawyer Street

Phone: P-8411 HOUSTON, TEXAS **P. O. Box 688**

LOWELL
SAFETY-STEEL
WRENCH



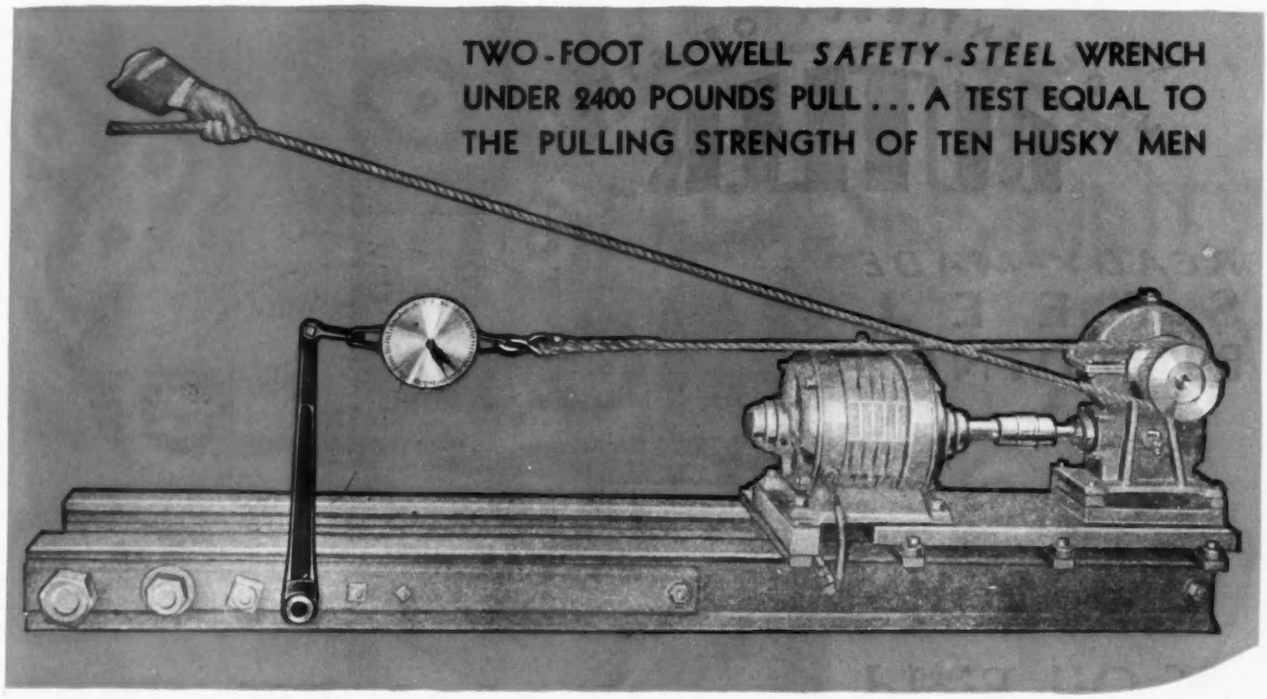
Bends to Warn You, BUT WILL NOT BREAK

LOWELL *SAFETY-STEEL* WRENCH

Length of handle	2 feet
To fit bolts sizes	$\frac{5}{8}$", $\frac{3}{4}$", $\frac{7}{8}$", 1", $1\frac{1}{8}$", $1\frac{1}{4}$"
SQUARE OR HEXAGON NUTS	
Sizes across flats	$1\frac{1}{16}$" $1\frac{1}{4}$" $1\frac{7}{16}$" $1\frac{5}{8}$" $1\frac{13}{16}$" 2"

LIST PRICES

Wrench with one Socket	$10.00
Extra Sockets, each	3.00



The New Lowell *Safety-Steel* Wrench Tested to Stand a Pull of 2200 to 2400 Pounds and Guaranteed not to Break . . .

The new Lowell *Safety-Steel* Wrench is made of an electrically treated metal of unusual strength. It is so strong that a 2-foot wrench cannot be bent or broken by ten men. Along with this added strength of metal, Lowell *Safety-Steel* Wrench has full enclosed ratchet and parts that have an absolute crushing action on hardened Steel Pawls.

Every handle of Lowell *Safety-Steel* Wrenches is unconditionally guaranteed not to break . . . a new handle without charge if one breaks. Put them to work soon.

LOWELL WRENCH CO.

WORCESTER, MASS., U. S. A.

PUMP IT HOME WITH SAFETY WITH A LOWELL *SAFETY-STEEL* WRENCH

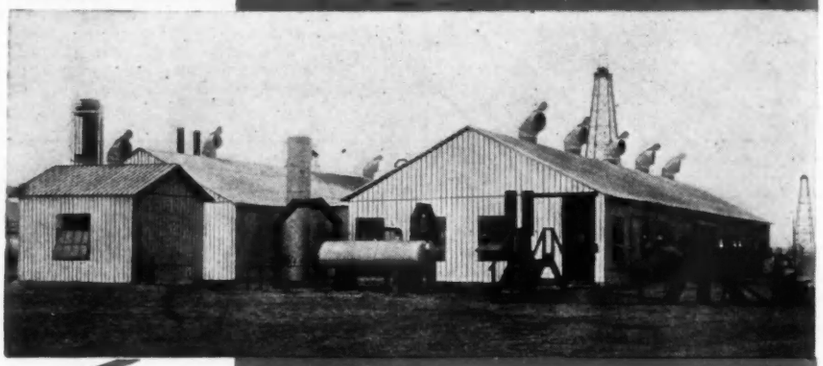
MADE ENTIRELY OF STEEL

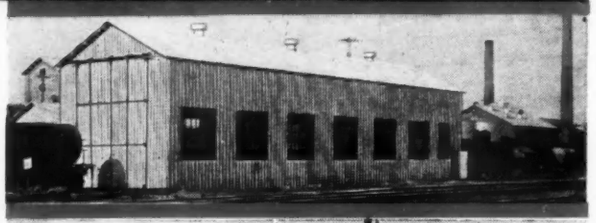
BUTLER

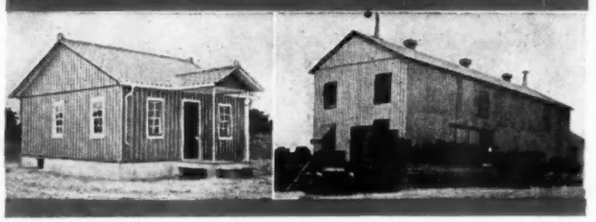
READY-MADE STEEL BUILDINGS

•

The Standard of Oil Field Structures







SINCE installing the Butler Steel Buildings shown here—

One owner has ordered additional standardized units with which to enlarge the original installation.

Another has taken the original installation down, shipped it to a new location and with additional standardized units re-erected it on a larger scale.

The other owners have either ordered more buildings like the first installation or Butler buildings of other types for various purposes.

So extensively have Butler Ready-made Steel Buildings come into oil field use that they are regarded as the standard of oil field structures. Fire-safeness to offset remoteness from fire protection; complete materials, ready-made in standardized units for ready transportation to outpost operations; speed in erection by whatever labor crew is available; lower investment and maintenance costs; structural qualities which insure permanence, yet which permit enlarging or taking down and re-erection—these are the characteristics which adapt them extraordinarily well to oil field service.

Send for the steel building book picturing installations of Butler Ready-made Steel Buildings for sheltering such oil field activities as field offices, dwellings, pump stations, belt halls, flowing plants, refineries, material supply depots, warehouses, tank car repair shops, machine shops, mess halls, garages, etc., etc. You will find it a valuable guide in building.

BUTLER MANUFACTURING COMPANY

1246 Eastern Avenue
Kansas City, Mo.

946 Sixth Ave., S. E.
Minneapolis, Minn.

Please send the Butler Ready-made Steel Building book. At this time our interest is

in.....ft. x.....ft. x.....ft. building for.....

Firm name.....

By.....

Address.....

ORGANIZED RESPONSIBILITY VS. "CATCH-AS-CATCH-CAN" METHODS

The difference between the permanent institution and the "catch-as-catch-can" companies that beset every industry is organized responsibility.

The "catch-as-catch-can" company takes business where it is easiest to get, and at whatever price it can command. The permanent institution, realizing its obligation to the industry, makes its service available wherever it is needed at a price that is fair to all.

Wherever oil is produced in America, Halliburton service is available. To the wildcat atop a mountain; to the field just beginning to quiver with the bustle of activity; to the well in the middle of the Gulf of Mexico, Halliburton brings the same dependable service as it renders to the operator in a boom field.

Organized responsibility is an important factor in any industry.

Erle P. Halliburton
President.

HALLIBURTON OIL WELL CEMENTING COMPANY
DUNCAN, OKLA.

Do You Receive THE CEMENTER Regularly as Issued?

If you do not, tear out and mail this coupon, and we will see to it that copies of this publication—containing practical oil industry information—are mailed to you regularly.

Name .....

Company .....

Address .....

OW

and

discuss

DUAL CONTROL OF WELDING HEAT

"One of our welding men told me that no operator could do good work unless he had dual control of his welding heat. What does that term mean?"

"It means to the operator what your gear shift and accelerator mean to you as an automobile driver. You get major speed variation by your shift and refinement of the speed by your accelerator."

"You mean that you can get proper welding current at the right welding voltage throughout the range of the machine in two ways?"

"Exactly, and what that operator means is that he can't do as good a job of welding or as fast a job of welding, without this dual control."

"Sounds reasonable. I wouldn't buy an automobile that hadn't both gear shift and accelerator. See that our new machines have that improvement.

"They will, if we buy Lincoln 'Stable-Arcs'. Because of this feature they are the only welders that give the full capacity of the machine at the voltage required for 'Shielded Arc' welding. It's an exclusive development of

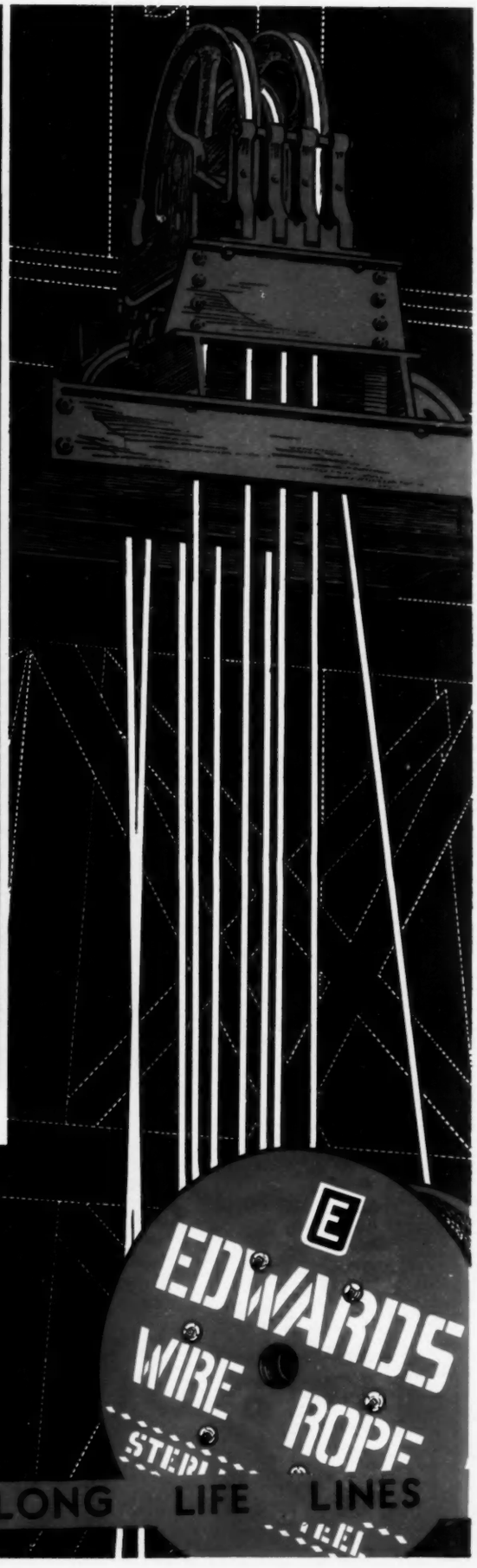
LINCOLN

THE LINCOLN ELECTRIC COMPANY, CLEVELAND, OHIO

Largest Manufacturers of Arc Welding Equipment in the World

W-174

MAXIMUM TON MILE PERFORMANCE

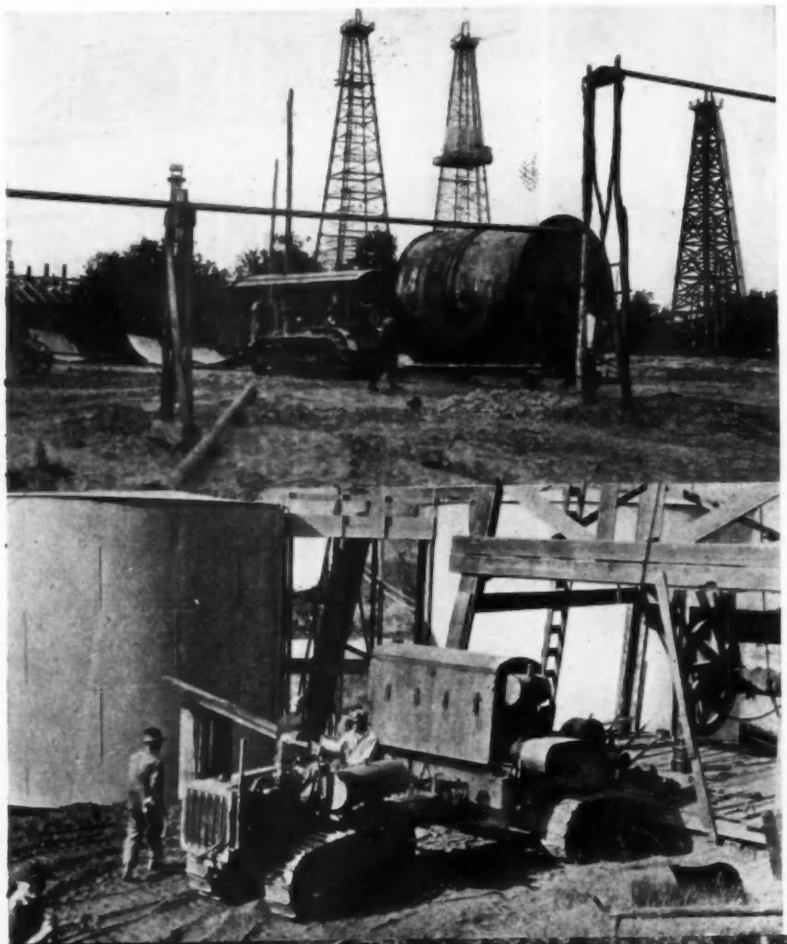


MID-CONTINENT HEADQUARTERS
THOMPSON BUILDING TULSA, OKLAHOMA

EDWARDS WIRE ROPE
E. H. EDWARDS COMPANY
MAIN OFFICE & FACTORY
SAN FRANCISCO
BRANCHES
SEATTLE • PORTLAND • LOS ANGELES

EDWARDS LINES ARE LONG LIFE LINES

"Caterpillars" in the WORLD'S OIL FIELDS



HAULING over poor roads or no roads at all is a distinctive feat of the "Caterpillar" track-type Tractor. Steep grades, mud, sand and winter weather all yield to the wide, ground-gripping tracks. Here are views selected almost at random—scenes from Roumania, the United States and Venezuela. And after the hauling is done "Caterpillars" keep endlessly busy at other tasks where power and traction are needed in abundance.

Prices—f. o. b. Peoria, Illinois

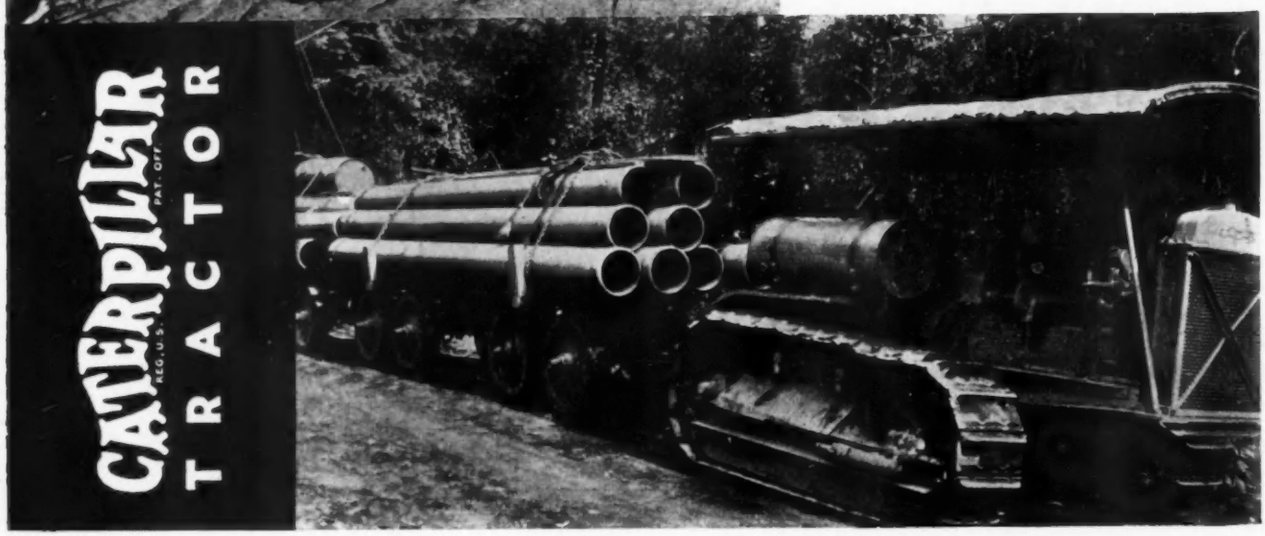
TEN . . . $1100 TWENTY . $1900
FIFTEEN . $1450 THIRTY. . $2375
SIXTY . . . $4175

Caterpillar Tractor Co.

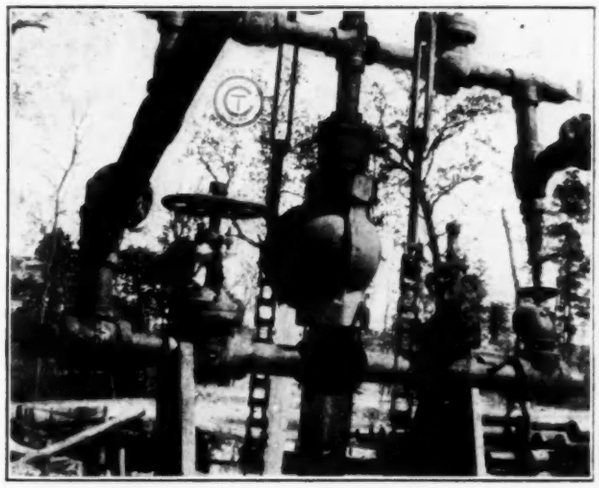
PEORIA, ILLINOIS, U. S. A.

Track-type Tractors Combines Road Machinery

(There's a "Caterpillar" Dealer Near You)



NEW... *but going like wildfire!*



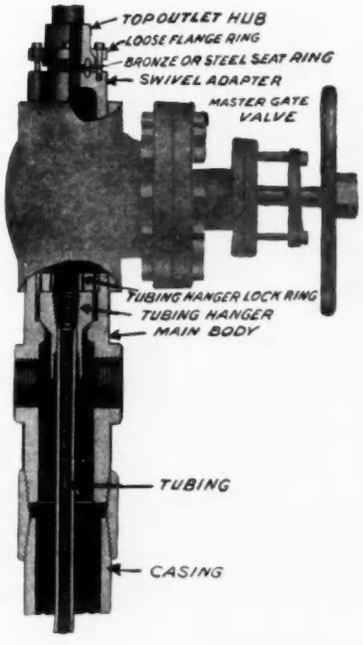
One of many O-C-T Full Control Tubing Heads on duty in East Texas fields. This is one on a well owned by a Major Company, which has standardized on this head.

O-C-T Plant Working Night and Day to Fill Orders on New Full Control Tubing Heads

With shops working night and day, orders coming in by wire, telephone and letter, it is no exaggeration to say that Oil Center Tool Company's new Full Control Tubing Heads are "going like wildfire."

As "Chesterfields" say, "such popularity must be deserved." It is. Forged steel construction throughout is one reason. Design that permits closing the Master Gate with Tubing in the hole is another. Steel to steel seal-off between the tubing hanger and the main body with no packing needed; a swivel connection on top embodying the famous O-C-T "double seal" flange union principle; double threads in the bottom of the tubing hanger to accommodate either regular or upset tubing—and a lot of other good reasons account for the flood of orders.

Step over to your nearest Supply Store and ask about this new head that is sweeping the East Texas field. If you don't say it's the slickest low-cost head you ever saw, well, the next one's on us! Meantime, write for a pamphlet giving complete and detailed information on this and other types of O-C-T Tubing Heads to meet all individual requirements. Gladly mailed on request.



Oil Center Tool Co.

924 ADELE ST., HOUSTON, TEXAS

OIL—

Its Conservation and Waste

By
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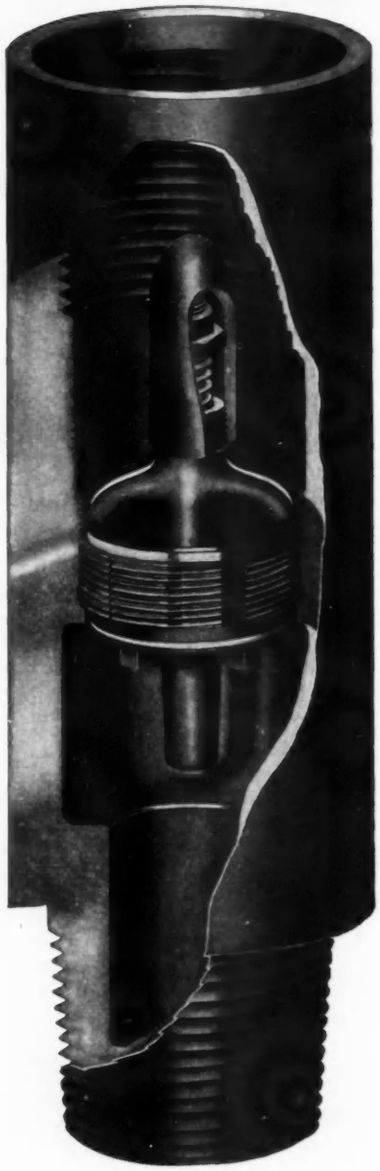

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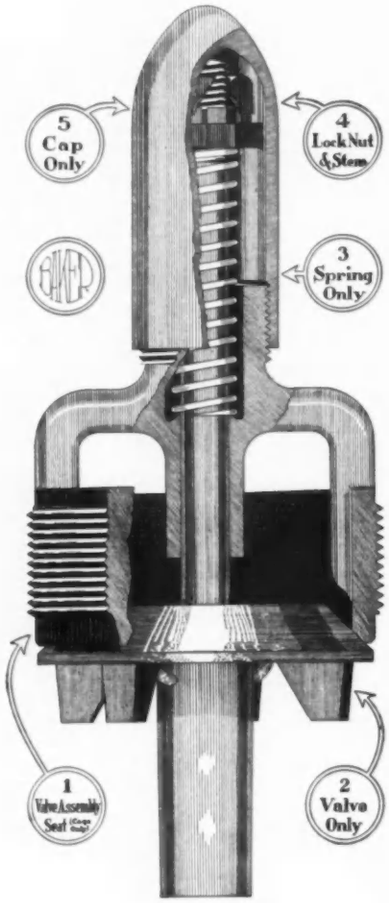

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THE OIL WEEKLY

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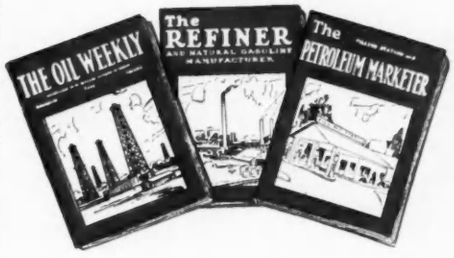

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THE OIL WEEKLY

VOLUME 61, NO. 6 APRIL 24, 1931

THE WEEK'S NEWS

Yates Operators Demand Allowables Be Restored

Dallas, Texas.—Restoration of about 17,000 barrels of the 19,500-barrel slash in production allowance of the Yates field that was put into effect 7 a. m., April 4, upon orders of the Texas Railroad Commission, acting solely upon recommendations of the Central Proration Committee of Texas, was demanded by the majority of the operators during a special meeting held here April 20. A formal petition is to be submitted to the commission asking that the production allowance of the field be increased immediately from 70,000 to 87,000 barrels daily. John R. Suman, director of Humble Oil & Refining Company and chairman of the Yates proration advisory committee, presided at the meeting, but did not vote on the above matter. Several hours after adjournment of the Dallas meeting announcement was made from Houston headquarters of Humble Oil & Refining Company that the company would include Yates crude in a general reduction of crude prices in Texas and New Mexico, with the former field getting a five cent per barrel cut, thus making the new price 35 cents at the well.

This unexpected cut in prices of Yates crude is not expected to have any bearing on the stand taken by the operators in regard to production allowance of the field, as representatives of the purchasing companies serving the field testified that their combined requirements would total about 87,000 barrels. It was explained at the meeting that the Central Committee had in mind switching the crude market sacrifice recently taken by Yates field to the North Texas district, where severe proration restrictions are in force, but this committee overlooked the fact that a different set of purchasers serve the two areas.

Representatives of Shell Petroleum Corporation testified at the Dallas meeting that the 70,000 barrel quota now in effect in the Yates field does not meet the requirements of that company, which is a producer and also a large purchaser, and that other fields would be drawn upon if denied the needed oil at Yates. Humble Oil & Refining Company and Mid-Kansas Oil & Gas Company are the only other general crude buyers in the field, but both of the latter elected to absorb their usual percentage of the total allowance of the field rather than to surrender connections to Shell Petroleum Corporation and allow the field to remain at or near its present low production level. Gulf Produc-

(*Continued on page 68*)

Humble Posts New Oil Prices And Lowers Pipe Line Tariffs

Effective Tuesday, April 21, Humble Oil & Refining Company posted a new schedule of prices for crude purchases, lowering New Mexico and nearly all Texas prices and for the first time including the new East Texas fields on its schedule. At the same time it was announced that Humble Pipe Line Company will reduce tariff and delivery charges over practically its entire system by approximately 20 per cent, effective as early as interstate schedules can be made to apply.

It is pointed out that the revision of crude prices and the proposed reduction of delivery costs through the pipe line system constitute an attempt on the part of Humble Oil & Refining Company to equalize the demand for crudes from all districts at seaboard, so that the far inland fields will be better able to compete with the new East Texas producing areas.

For the first time posting prices for the new East Texas crude, Humble Oil & Refining Company now groups it with Mexia, Powell, Boggy Creek, Richland, Wortham, and Currie crudes, the prices for these fields being maintained as formerly on basis of 43 cents for oil below 29 gravity and ranging up to 67 cents per barrel for 40 gravity and above.

Ranger, North Texas, Moran and Cooke County crudes, which were formerly classed with the above group including Mexia, are now grouped separately, with the new prices being an average of 10 cents per barrel lower.

The new price schedule also made reductions in other districts as follows: Gray, Carson and Hutchinson Counties, Texas Panhandle, about 10 cents per barrel; Winkler and Pecos Counties, West Texas, five cents per barrel; Lea County, New Mexico, 7½ cents per barrel; Crane-Upton, Crockett and other West Texas fields, five cents per barrel; Gulf Coast, both "A" and "B" grades, 10 cents per barrel; Refugio heavy nine cents per barrel and Refugio light crude approximately 10 cents per barrel; Mirando crude, Southwest Texas, nine cents per barrel; Salt Flat and Darst Creek seven cents per barrel; and Pettus field, Bee County, 20 cents per barrel. The new prices are shown along with other current crude oil price quotations.

Pointing out that the new East Texas field (Rusk and Gregg Counties) appears to be the largest ever found in the United States, with probable productive area of 100,000 acres, President W. S. Farish of Humble Oil & Refining Company issued a statement in connection with the new price schedule and the proposed pipe line tariff reduction, pointing out the imperative need for orderly development in the East Texas area, and

(*Continued on page 64*)

Water Supply Oklahoma

By I. F. BINGHAM
Associate Professor, Petroleum Engineering, University of Oklahoma,
and E. CARTER HUTCHINSON

THE purpose of this paper is to describe comprehensively the sources, methods of treating, and installations for distributing the supply of water to the points of consumption. Material included herein relates to existing conditions as of December 1, 1930. Operators and company engineers have cooperated by freely giving information concerning their respective methods and systems.

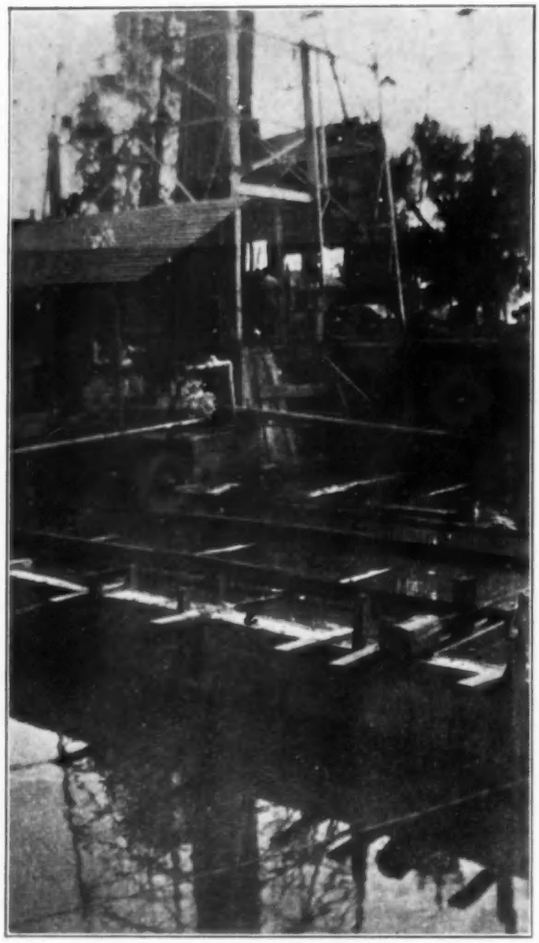


FIGURE 1

a—slush pump; b—intake; c—slush pits; e—concrete retaining wall

THE water supply for the Oklahoma City field, in its earlier stages of development, was obtained from the North Canadian River which flows through the north portion of the field.

This source, however, did not prove satisfactory for several reasons: First, the river water carries an enormous load of silt in suspension, carbonates and colloidal matter in solution, as well as being polluted by sewage from Oklahoma City. Second, during drought seasons the river could not be depended upon to furnish an adequate supply of water as development extended. Third, expensive pumping, treating, and distributing installations did not seem justified in connection with a dubious source of supply.

In overcoming the first objection it would be relatively simple to settle out the matter carried in suspension, but a temporary softening system would mean, in most instances, the injection of softening compounds at the feed-water pumps. This in turn would mean the precipitation of the solids within the boilers, and frequent blowing of the boilers to eliminate the matter precipitated. Obviously the boilers would function for only a short time when it would be necessary to suspend operations and scrape the scale from the flues or replace them. We may say in general, then, that river water as a source has proved so unsatisfactory that it is being used only as a temporary source until water wells can be drilled, excepting cases where permanent softening plants are a part of the installation.

Figure 1 is an instance where water is being taken directly from the Canadian River for drilling purposes. The derrick is built over one of the smaller channels of the river. The slush pits (c), seen in the foreground, are separated from the river waters by the concrete retaining wall (e). The water from the river is transferred by a centrifugal pump, to a temporary settling pond, where a portion of the sediments carried in suspension are dropped. The feed-water pumps pick up this partially settled water from the pond and inject it directly into the boilers.

At the time the photograph was taken operations were suspended for the purpose of replacing the flues, and for the purpose of completing a water well which was being drilled. This well will produce from about 30 feet of quick sand. Large diameter, perforated casing will be landed on the Red Beds below. The well will be finished with a six- or eight-inch flow string, and will be produced by air-lift. The air will be piped from a nearby compressor station. Solvents will be added to the water at the boiler feed-pumps.

Figures 2 and 3 illustrate another method of supplying water which has been adopted by a number of operators. The well in Figure 2 was finished at 400 feet and that in Figure 3 at 580 feet. They both produce from the Garber formation. These wells are finished with six-inch casing and pumped with a 4¾-inch working barrel, the sucker rods being directly connected to the steam head (a). The boiler (b), Figure 2 must be used, in addition to the drilling boilers, for the steam head operates under 90 pounds pressure whereas the working pressure of the drilling boilers is much higher. The 1600-barrel tanks constitute the reservoir from which the water flows by gravity to the feed-water pumps. This installation furnishes 2500 barrels of soft water each 24 hours, which is ample for the single drilling well. Other operators vary this practice by drilling several of these wells to the 400 or 600 foot level, spacing them close together and

Systems of the City Oil Field

pumping the water from all into one large circulating tank which supplies all needs of that particular lease.

Wirt Franklin Petroleum Corporation has an efficient and yet rather inexpensive water supply system. At present their system is supplying water to about 30 drilling rigs, in addition to other lease requirements. Three water stations are maintained by this company, each station supplying water from one well. The wells are drilled through the quick sand to a depth of 40 feet and cased with 15-inch slot perforated casing to the bottom. An eight-inch pipe, perforated at the bottom, serves as the flow string. A centrifugal pump, driven by a 10 horsepower gasoline motor, lifts the water from the eight-inch flow string and delivers it through a six-inch line into a battery of three 1600-barrel tanks. The water flows by gravity from these tanks to the pump house. At the pump house, three pumps, 12 x 6¾ x 12, deliver the water to the field main under pressures ranging from 200 to 250 pounds per square inch. These pumps are operated by steam but arrangements have been made for a quick change over to gasoline motors in case of an emergency.

The six-inch main laid to the field is tapped by four-inch lines laid to the locations. All lines are buried to avoid obstruction to traffic.

This company secures drinking water from deeper wells which produce from the Garber standstone. This water is piped to the camps and offices.

Indian Territory Illuminating Oil Company has a system capable of producing 260,000 barrels every 24 hours. The plant consists of a subsidiary station located on the site of the old fair grounds, and a central station located a half mile to the south and across the Canadian River.

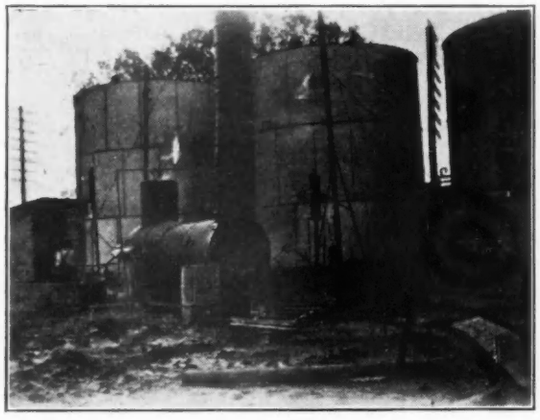


FIGURE 2

a—steam head; b—boiler; c—pipe from well to tanks; d—1600 barrel tanks; e—water well, 400 feet deep

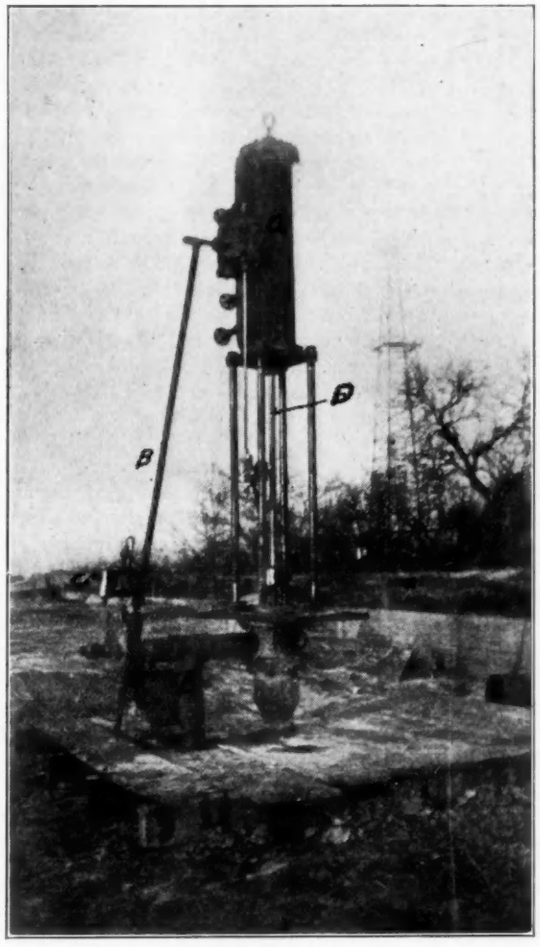


FIGURE 3

a—steam head, stands 9 feet off ground; b—steam line; c—lubricator; d—piston connected to sucker rods in well; e—main to tanks

The substation supplies water from five wells ranging in depth from 40 to 60 feet. Large perforated caissons were sunk through the water bearing quick sand and the annular space between the different sizes was filled with coarse gravel. This formed a sump for the rapid collection of water. Three of these wells are pumped by 20 horsepower centrifugal pumps which have an average capacity of 450 gallons per minute. The other two wells are pumped by 20 horsepower centrifugal pumps, adjustable speeds, and capable of pumping 600 gallons per minute. These pumps deliver the water through six-inch lines which converge into a 12-inch line leading to the 5500-barrel tank. Two rotary pumps driven by 200 horsepower induction motors, three phase, 60 cycle, 12-inch intake, transfer the water from the 5500-barrel tank, through a 16-inch line to the central station south of the river. Figure 4 shows the interior of the pump house and the two rotary pumps. One pump is adequate for making this transfer, the other being used as a stand by in case of an emergency. The five wells produce about 48,000 barrels daily and show no evidence of failing.

Figure 5 is a view of the central station. At this station

water is pumped directly from the Canadian River rather than from wells. Due to the fact that the river is exceedingly low during certain seasons of the year, the substation described above is an essential feature of the system. Perhaps neither of the units alone would supply enough water to meet the demands, but the two acting in conjunction are capable of furnishing about 260,000 barrels every 24 hours.

Figure 6 shows the pump shed, built over the edge of the river. This shed houses 14 20 horsepower rotary pumps. Each of 12 of these pumps is capable of pumping, from the river sump, immediately below it, through an eight-inch line, about 20,000 barrels per 24 hours. The rate of the other two is somewhat higher if the high speed adjustments are taken advantage of. Within the shed on the bank of the river (W), Figures 10 and 11, these 14 electrical pumps are lifting this enormous quantity of water and delivering it into a 16-inch main which joins the 16-inch main from the previously mentioned sub-station. From here the water is sent through the softening plant which is described later.

After leaving the treating plant, the water flows to the pump station which is electrically equipped throughout. The pumps deliver the water to the mains at a pressure ranging from 400 to 450 pounds per square inch.

In addition to the above pumps, there are two compressors which furnish air to lift water from two 750-foot soft water wells. This water is piped to company camps and officers for drinking and household use.

Purifying Oklahoma City Oil Field Water

The following analysis of the Canadian River water will make clear the necessity of treating for hardness:

River Water	Parts per million	Water from 400-600 Feet	Parts per million
Radicals		Radicals	
Calcium	73.3	Sodium and Potassium	36.76
Magnesium	28.5	Silica	0.0
Sodium	128.0	Iron and Al.	0.0
Chlorides	163.0	Calcium	9.65
Sulphates	131.0	Magnesium	6.01
Bicarbonates	256.0	Chlorides	17.73
Carbon Dioxide	6.0	Bicarbonates (Na)	206.0
		Sulphates	14.59
Total	758.8	Total	290.68
Hardness 10-20 grains		Total hardness, Grains per gal.	3.0

The hardness of the river water varies with the amount of water being carried by the river. The water from the river quick sand is much harder than the river water, the hardness being 26 grains per gallon. The water from the 400- and 600-foot sands is soft and does not need treating except to purify for drinking water.

One general method of treating is to inject patented treating compounds into the water which is to be used for drilling, at the feed-water pumps. Some vary the process by preheating in conjunction with the use of solvents.

The zeolites method of softening is used by other operators.*

Boiler compounds offered for sale under trade names may be classified as follows:*

1. Sodium compounds.
2. Sodium compounds mixed with organic substances, usually some form of Tannin.
3. Organic substances without Tannin.
4. Barium compounds and compounds containing castor oil (antifoaming).
5. Mechanical acting compounds.
6. Inert materials.

*Boiler Feed Water Purification, Powell, 1927.

Cactizona is a compound which is sold extensively in this field. It is an organic product, slightly acid in reaction, and is said to have a dissolving as well as a precipitating reaction. It is fed into the water through lubricators at the rate of one or two drops for each 1000 pints of water. One quart is generally sufficient for treating the water used by one boiler each 24 hours. It is in liquid form and sells for $62.00 per barrel.

Selco Power is another patented softener used in this field. It also is fed into the water as it enters the boilers. In addition to these there are many other good softeners and solvents on the market.

The principal objection to the above method of water treatment is that the matter carried in solution in the water is precipitated within the boiler, and while the precipitates may not harden into scale, the accumulation of suspensoids may become so great that priming results. The system described in the following paragraphs is designed to avoid the ill effects of that which precedes.

The treating plant operated by Indian Territory Illuminating Oil Company is shown in Figure 7. The water is treated with a mixture of soda ash, lime, and alum for the purpose of precipitating objectional solids, carried by both the shallow wells and river water. After treatment the water ranges from 2.3 to 3.6, and in rare cases, seven grains in hardness.

During the summer months and when drilling was at the peak, the plant was run at nearly full capacity. The consumption of chemicals at that time was one carload of soda ash every five days; one carload of lime every two days; one carload of alum every 15 days.

The ingredients are supplied in proportion to the amount of water being used and in accordance with a chemical analysis of the water at regular intervals.

The soda ash, lime and alum are fed into three automatic stokers where each ingredient is mixed with water. The

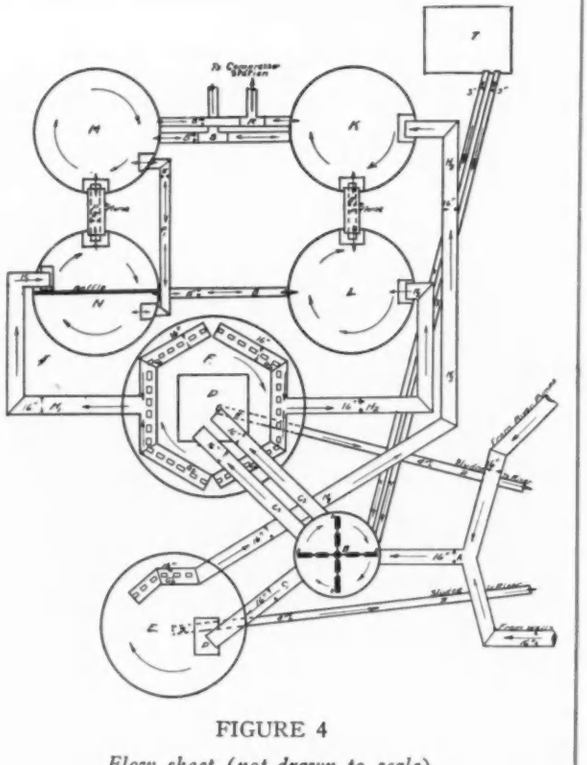


FIGURE 4

Flow sheet (not drawn to scale)

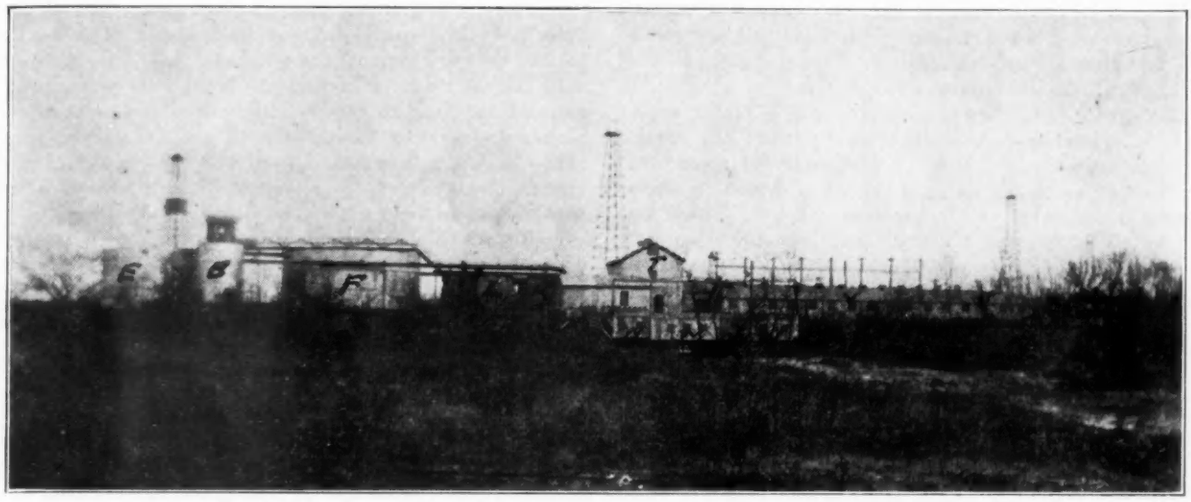


FIGURE 5
Central station of Indian Territory Illuminating Oil Company. B—agitator tank; E, F, L, K—storage tanks; T—treating plant; W—pump house over river; V—pump house

soda ash and lime are mixed together and fed into one rotary pump, the alum solution going into another.

Leaving the pumps, the solutions are forced through separate three-inch reinforced fire hose to the agitator tank. The soda ash and lime mixture is delivered into agitator tank (B) at a point four feet from the bottom. The alum solution enters (B) at a point eight feet from the bottom (see x and y, Figure 7).

The untreated water from the 16-inch main (A), enters (B) directly below (x) and (y). The agitator tank (1000 barrels capacity), is equipped with a revolving agitator (bb). This is made of vertical paddles built around a central shaft. This shaft is driven by a small electric motor which is housed above the tank. Here the water is thoroughly mixed with the solutions, and as the tank fills to the top, the water flows out through 16-inch overflow pipes, ($C_1C_2C_3$), into tanks (E, 5500 barrels and F, 10,000 barrels). These lines extend to the bottom of the tanks and discharge the water within baffle boxes (B). As the water rises in these two large tanks, the soda ash, lime, and alum solutions react to precipitate the impurities within the baffle boxes, and to some extent, over the area of the tank bottoms outside the baffle boxes. From these settling tanks, the precipitated sediments are drawn off through four-inch drain pipes (z). These drains are opened at regular intervals as the sediments collect.

As the water rises in tanks (E) and (F), it becomes relatively clear, depending upon the degree of subsidence.

From tanks (E) and (F) the clear water overflows into 16-inch pipes, (G_1) and (G_2), perforated at the top. The water is drawn from the top in this manner in order to minimize agitation and allow a maximum amount of time for subsidence of the precipitated solids.

From this point the water flows through (H_1), (H_2), (H_3) to tanks (N), (L) and (K) respectively. These tanks are connected by equalizing manifolds (P) and (Q), which maintains an equal water level in all the tanks, and near the top. Auxiliary flumes take care of the contingency arising from the inability of the eight-inch lines to care for maximum flow between the smaller tanks.

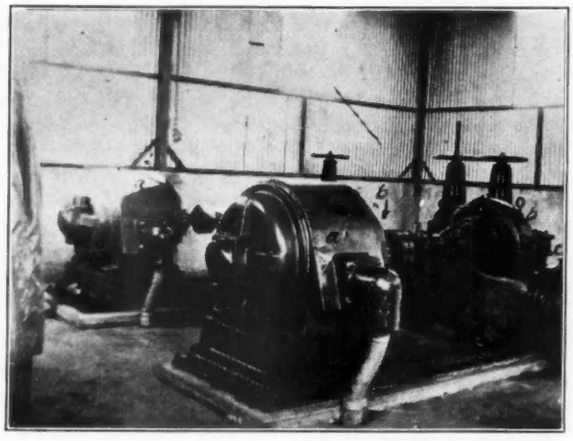


FIGURE 4
a—induction motors; b—pumps; c—16-inch main

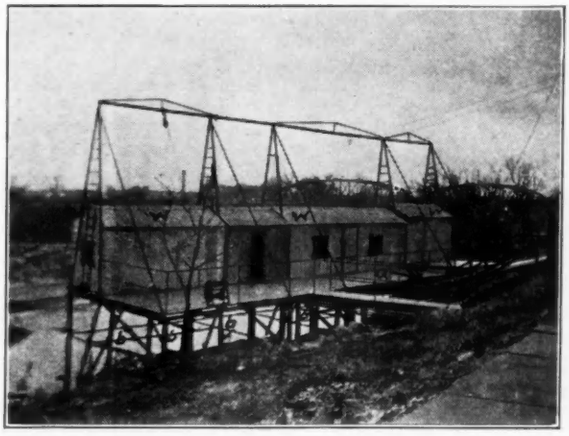


FIGURE 6
W—pump house; b—water lines to pumps; a—lines to station

The eight-inch manifolds at (R) and (S) connect tanks (M) and (N) midway between top and bottom, permitting the line to the pump station to draw from one or both of these tanks at any time. From this point the water is sent into the field mains as previously described.

Water from the Garber sandstone (400 to 600 feet) is used for drinking and household purposes. It does not require treatment except where there is probability of contamination. In this event the water is treated with sodium hypochloride carrying 1½ to five per cent chlorine. This treatment kills gas forming bacteria. The contamination may arise from the migration of river water to these sands or from the rotary mud of adjacent drilling wells.

No accurate information can be obtained as to the exact amount of water used for all operations in this field because of the many operators who have only an approximate idea of the output of their plants. Again there are those who buy water from other operators. But to give some idea of the quantity used, it may be stated that drilling requirements alone, during the peak of development, amounted to more than three-quarter million barrels each 24 hours. Add to this the requirements for all other operations within the field and it can be seen that the amount of water used is stupendous. Despite this fact the situation has been comparatively easy to handle due to the magnitude of the sources. At no time has it been necessary to suspend operations for want of water, provided the installations were extensive enough to draw from the several sources.

Cost varies depending upon the source drawn from and upon the efficiency of the plant. It would appear from the figures obtained that the larger systems operate at a smaller cost per barrel than do the smaller systems.

Figures obtained from a number of the operators, indicate that the cost, including treating for softening, ranges from one to three cents per barrel, delivered to point of consumption.

Production Costs Need Not Be Complicated

By R. E. KERFOOT

WHEN curtailment of expenses is essential, the cost of operation feature is one that should be definitely known, before intelligent action can be taken to revise either methods or costs.

Frequently operating costs are not analyzed to the extent they should be and there exists a misconception as to the entire situation which may be readily overcome if the production department is supplied currently with the results of the expenditures they have incurred. It is not to be expected that they be accountants, but, nevertheless they should be properly informed as to the amounts expended in their department, and classified in a manner to be easily understood by all concerned.

After a well is completed, it either flows or has to be pumped, either operation requiring a certain amount of cash outlay, all being at the sanction of the producing department. Naturally, it is the desire and intention of the management to operate all features as economically as sound judgment and experience dictates, yet the one directly responsible for results in any one branch cannot be of material assistance, without being informed in a concrete manner, of past performance.

In general practice it is not of especial benefit to know the cost, by wells, of production or lifting costs, as generally the oil produced from the various wells is run into one of a series of tanks, making it impossible to obtain an accurate record of any one well's output.

Production expense is really the cost of operating and maintaining a producing lease, therefore the cost of producing a barrel of oil may be readily found by dividing the total expenditures for operation by the total number of barrels of oil produced from the lease during the same accounting period. Customarily, the accounting department is distributing the expenses in such a manner as to reflect the true condition, and as a basis for other reports and information. Accordingly, then, and independent of other data emanating from that department, the functioning head of the production department should be given, at the close of each accounting period, a summarized result, by leases, of what has been expended, showing the purpose for which spent. If the organization had in effect a budget system, this information would come to the head of each department as a matter of regular routine, but for concerns who do not have this advanced method of disseminating information, the accompanying form, in a general way, will supply the data most desired. This is, of course, only basic, and may be enlarged upon, as to detail, in accordance to individual requirements.

This form, when accompanied by monthly report of oil produced, together with a monthly summarization of daily operations, showing number of days each unit was pumped, time devoted to the changing of rods, etc., can be of important value, serving greatly as a guide to greater efficiency and economy.

PRODUCTION COSTS
JONES LEASE
For the Month of October and Ten Month Period Ended, October 31

Wells No. 1, No. 2, No. 2A and No. 4.	This Month		For Period	
PRODUCED: (Barrels)				
PRODUCTION EXPENSES:				
Pumping Labor and Expense				
Pumpers Labor				
Power Used				
Steam Used				
Water Used				
Fuel Used				
Oil, Waste and Supplies				
Depreciation				
Maintenance Expense				
Labor				
Repair Parts, Renewals and Replacements				
General Lease Expense				
Proportion of Service Dept. Expenses				
TOTAL EXPENSES				
LIFTING COST PER BARREL				

Devised by R. E. Kerfoot

Poland's Crude Production Had Steady Decline in 1930

By T. S. SZWABOWICZ,
Petroleum Engineer, Bitkow, Poland

T. S. Szwabowicz

POLAND'S production of crude oil declined during 1930 to a total of 628,557 metric tons (about 4,525,000 barrels) compared with 632,996 tons in 1929. This represented a drop of 3339 tons, or 0.52 per cent. The great number of completions (Table 2) could not offset the natural decline of all oil fields. Increased activity was marked especially in shallow fields, while Boryslaw district was rather quiet. This latter field during 1930 declined 270,000 tons, and therefore was chiefly responsible for downward trend of country's total.

Number of completed wells in 1930 increased from 176 to 228, while deepening jobs climbed from 52 to 59. Total amount of hole drilled during the last year was 117,034 meters, or about 18,000 meters more than in 1929. Failures were 52 in number, i.e., 18 per cent of all completions. Such a low figure of dry holes was largely due to lack of any wildcatting activity.

The decline of both of initial production of newly completed wells and average production of producing wells denoted the aging stage of Polish oil fields. Increased recovery of casinghead gasoline from natural gas attested the same fact.

Production of natural gas was 486,506,000 cubic meters, against 466,683,000 cubic meters in 1929. Output of natural gasoline increased by 4259 tons. Gasoline contents in natural gas were 13.55 kilograms per 100 cubic meters compared with 12.45 kilograms in 1929. Only a negligible amount of gas was wasted. All of the wet gas was treated at gasoline plants, and residue sold as fuel. Price obtained for the gas at the well was 0.68 cents per one cubic meter, or 20.25 cents per 1000 cubic feet.

Consumption and Exports Lower

Domestic consumption of refined products showed a loss of 5251 tons over 1929, but demand of gasoline and gas oil increased by 8707 and 8348 tons, respectively; kerosene and lubricants were entirely responsible for lower total. Exports of all products totalled 191,668 tons, or 56,594 tons less than in 1929. Runs to stills decreased from 656,116 to 632,851 tons. Stocks of crude in storage tanks in oil fields remained practically at the same level as they were at the end of the preceding year; but amount of crude stored at the refineries increased slightly. Total stocks of crude represented sufficient quantity for one month's run to stills.

Bulk of crude came from Boryslaw district, and it was, as usually, the cheapest oil. It was sold at $215.00 per "tank car" (10 tons) or $3.00 per barrel, which indicated an increase of $8.00 for each 10 tons, or 11 cents for one barrel. Other grades also obtained better prices, and their final figures, in some instances, were as high as $400.00 per 10 tons, or $5.50 per barrel. Retail price of gasoline remained unchanged, and was 9.5 cents per liter, or 36 cents per gallon.

Sales Procedure

The procedure of selling and buying of crude is entirely different from that employed in the United States. Prices quoted are always understood to apply to 10 ton lots. Any amount of crude, at first, has to be measured by volume in special tanks, of 10 cubic meters capacity, then its specific gravity determined with aerometer. Thus by knowing these two factors weight can be easily calculated. Of course, impurities and temperature are also measured, and proper corrections introduced. The method of measuring is very cumbersome, and not adaptable for handling larger amounts of crude. It also increases losses through evaporation when filling the measuring tanks.

Another interesting feature of marketing is the fact that price of crude from a certain oil field is fixed, regardless of gravity. Some of the fields, however, have two entirely different kinds of crude, and therefore they have two different prices for the respective crudes.

Now, how are the prices of oil from different oil fields established? This is being done by the Oil Syndicate to which almost all major operators and refiners belong. Its main program is to take care of export of excess of refined

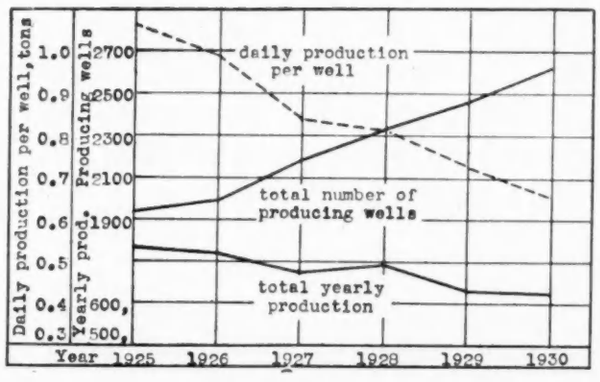


FIGURE 1

products. Export prices are below the cost, to compete with other oil producing countries, and therefore export means actual loss to the refiners. This loss, however, is balanced by higher prices obtained within the country. The Oil Syndicate, in order to calculate price of crude has to consider actual values of export and domestic consumption. Weighted average of both values, minus cost of refining and refiners' profit, denotes proper price of crude. From this standard price various rates are derived for different crudes, according to their relative qualities. Syndicate's quotations are accepted, as a rule, by all producers and refiners.

Other Price Authority

Besides prices posted by the Oil Syndicate, there are others fixed by State Refinery. This refinery, the largest in the country, has preference, reserved by law, of buying all grades of crude that belong to royalty owners of oil leases. Thus, its constant supply of oil is well secured. Prices paid by State Refinery are slightly lower than those posted by Oil Syndicate.

Despite great advantages that Oil Syndicate offers the petroleum industry, there are some drawbacks which can not be remedied as yet. Certain refineries, particularly smaller ones do not belong to the Syndicate and therefore do not share in the profitless export. They are selling their products only within the country, at the prices established by Syndicate. Thus they are drawing profits which enable them to continue to operate old and obsolete plants. Such conditions resulted in an unduly great number of plants working at about 50 per cent of full capacities. At present there are 30 refineries, of total yearly capacity of 1,100,000 tons, while their current runs are slightly higher than 600,000 tons per year. These small refineries are manufacturing inferior products, and are causing some trouble within the industry. However, lack of organization among them prevents any more serious competition on the market.

Winter in Polish Oil Fields

About 32 per cent of the country's total output of refined products has to be exported. This export is maintained by prices that are below own costs of production. Of course, the domestic consumer is paying for it. Retail price of 36 cents per gallon is about the highest in the world. No substantial gain of gasoline consumption is expected during the coming year. The new tax imposed on motor vehicles, being $5.00 per each 100 kilograms weight of automobile per year, is very burdensome, and undoubtedly will greatly retard further increase of registration of automobiles, whose number at the end of 1930 totalled 46,000. As long as such conditions exist, i.e. need of profitless export, high domestic prices, and small demand, there is no necessity for any extensive development of country's petroleum resources.

Prospects for future supplies of crude are not very bright. Production during 1930 doubtless will continue its downward trend, unless new oil fields are discovered; but at the present rate of wildcatting one can hardly hope for any rapid change.

So far, Poland's petroleum industry being protected by the cartel and its stabilization of internal markets and prices, has not felt the world crisis. On the contrary, its activities were increased during the last year and it offered work to about 15,000 employees throughout the year.

TABLE I

Poland's yearly production demand and stocks (metric tons)

Year	Production	Demand	Stocks at end of year*
1926	719,510	793,650	16,330
1927	669,509	669,916	15,923
1928	694,362	696,041	14,044
1929	632,996	636,216	10,820
1930	628,557	629,503	9,874

*Stocks at the refineries excluded.

TABLE II

Number of wells completed, daily initial production, and daily production per well

	Wells completed*					
Year	Oil	Gas	Dry	Initial production kilos	Total number of production wells	Daily production per well kilos
1926	98	6	27	6,272	1,991	990
1927	123	5	40	8,349	2,183	840
1928	167	6	34	5,430	2,332	815
1929	176	10	33	4,930	2,460	727
1930	230	5	52	4,399	2,624	656

*Recompleted wells included.

TABLE III*

Domestic consumption of refined products (metric tons)

Year	Gasoline	Kerosene	Gas oil	Heavy and Light oils	Other products	Total
1926	33,157	135,556	24,100	64,464	52,017	309,294
1927	50,465	149,374	46,041	62,482	49,350	359,712
1928	69,405	147,895	55,396	62,205	32,688	373,208
1929	89,430	153,670	63,790	59,290	48,278	414,458
1930	98,137	145,489	72,132	51,131	42,318	409,207
		Export of Refined Products				
1926	81,543	118,562	144,298	50,446	67,426	426,275
1927	62,186	49,403	58,404	42,259	58,151	270,403
1928	61,758	41,436	62,034	35,868	59,381	260,477
1929	43,930	57,173	61,443	41,031	45,191	248,768
1930	40,984	30,167	44,231	37,549	39,243	192,174

*Natural Gasoline included.

TABLE IV

Production, consumption and export of natural gasoline

Year	Production of natural gas (in 1000 cb. m.)	Gas treated	Output in kilos per 100 cb. m.	Production of natural gasoline	Domestic consumption (in metric tons)	Export
1926	481,322	190,022	9.6	18,255	15,988	834
1927	453,600	248,395	11.2	27,784	25,233	1,133
1928	459,531	259,205	12.03	31,855	29,882	860
1929	466,683	277,082	12.45	34,504	32,647	628
1930	486,506	286,051	13.55	38,764	37,596	12

Economists Agree *on* Needed Production Increase

By H. J. STRUTH
Staff Economist

THAT the demand for crude petroleum during the six-month period, April 1 to October 1, will be sufficiently large to justify increasing production above present levels, is emphasized by the facts disclosed in reports completed by the economic committees for both the Federal Oil Conservation Board and the American Petroleum Institute. The conclusions reached by these surveys are perhaps further fortified when considered in comparison with still another independent forecast—that prepared by THE OIL WEEKLY, which was published under date of January 30, 1931. Although each survey of supply and demand was conducted as a separate investigation of the situation, the results obtained seem to offer a remarkable state of agreement, particularly as to total and daily average domestic crude oil requirements. In fact, the combined results of these separate studies dictates a definite need for a daily production of crude in the United States of at least 2,400,000 barrels. This compares with an actual present output of 2,308,250 barrels and an indicated allowable total of about 2,138,000 barrels daily.

Before considering the economic reports separately, it is interesting to make comparisons of the pertinent facts disclosed by these surveys. The accompanying summary of the highlights of supply and demand for the period April 1 to October 1, 1931, shows the expected demand for gasoline and crude, as disclosed by the reports of the two economic committees and figures taken from THE OIL WEEKLY of January 30, 1931. It will be noted that figures of both the Federal Oil Conservation Board and the American Petroleum Institute differ but slightly in many respects, while figures of THE OIL WEEKLY serve as a further check to support the contention that there is need for more crude than actual and indicated allowable figures decree.

Domestic gasoline demand will undoubtedly amount to about 225,000,000 barrels during this period, while foreign demand is not expected to exceed 29,000,000 barrels. The economic committee of the Federal Oil Conservation Board was more optimistic over the gasoline export outlook than the committee of the American Petroleum Institute, while estimates of foreign demand prepared by THE OIL WEEKLY are undoubtedly excessive. Nevertheless, all three sets of estimates indicate that refinery gasoline production must be maintained at a rate not to exceed 224,000,000 to 225,000,000 barrels during the six-

Highlights of Supply and Demand Estimates

Period, April 1 to October 1, 1931

	Federal Oil Conservation Board	American Petroleum Institute	The Oil Weekly*
Domestic gasoline demand	223,000,000	225,000,000	225,270,000
Exports	29,200,000	27,127,000	39,489,000
Total gasoline demand	252,200,000	252,127,000	264,759,000
Gasoline imports	6,600,000	7,000,000	7,150,000
Natural gasoline and benzol	21,460,000	21,000,000	31,745,000
Net gasoline from crude	224,140,000	224,127,000	225,864,000
Refinery crude requirements	463,434,000	469,954,000	480,928,000
Crude exports and other cons.	28,000,000	30,500,000	15,911,000
Total crude demand	491,434,000	499,954,000	496,839,000
Crude imports	30,000,000	30,000,000	30,890,000
Crude from storage	17,400,000	(a)	18,360,000
Net domestic crude production required	444,034,000	(a)	447,589,000
Daily average crude production limit	2,426,379	(a)	2,445,805

Allocation of Crude Demand

Period, April 1 to September 30, 1931

	Federal Oil Conservation Board	The Oil Weekly*
Texas	162,641,000	151,900,000
Oklahoma	113,340,000	104,754,000
California	96,624,000	112,442,000
All others	88,829,000	96,853,000
Total	461,434,000	465,949,000

Indicated Production Limits*

	Indicated Demand	Proposed Limit	Daily Average
Texas	151,900,000	149,034,000	814,381
Oklahoma	104,754,000	99,852,000	545,631
California	112,442,000	105,529,000	576,653
All others	96,853,000	93,174,000	509,140
Total	465,949,000	447,589,000	2,445,805

*Taken from survey of 1931 supply and demand by H. J. Struth, Staff Economist, published in The OIL WEEKLY, January 30, 1931, Page 53.
(a) Not stated in specific quantity in committee report.

month period under consideration. There seems to be some difference as to the quantity of crude oil to be run to stills, although consideration of exports and other requirements results in a net demand figure of from 491,000,000 to nearly 500,000,000 barrels; the average of the three estimates would be about 496,000,000 barrels. Agreement on probable imports of crude of about 30,000,000 barrels and the conclusion that withdrawals from stocks of crude should amount to between 17,000,000 and 18,000,000 barrels, results in a net economic production limit for the six-month period of somewhere between 444,000,000 barrels and 450,000,000 barrels, an average of about 447,000,000 barrels. This indicates a daily average production limit for the United States of slightly more than 2,400,000 barrels during the period under consideration.

Need for More Oil

While many in the industry are of the opinion that sound economics dictates maintaining crude production at a rate not to exceed 2,200,000 barrels daily, these surveys offer convincing proof that there is at present an immediate need for more oil than combined allowable figures dictate, and even more than is actually being produced at the present time. The facts revealed by these surveys show that the industry could readily sponsor an increase in daily average crude production to a limit of at least 2,400,000 barrels, and still effect a reduction in crude stocks of between 17,000,000 and 18,000,000 barrels. Such a reduction in crude stocks would result in lowering inventories this year to the extent of at least 35,000,000 barrels. As a matter of fact, the situation in East Texas will undoubtedly result in boosting national crude production to the extent of perhaps 100,000 barrels above the indicated economic limit, unless effective means are found to stem increasing production there through proration. Under such conditions, it remains for proration forces to hold production to former limits in order to offset the effects of uncontrolled production in East Texas.

If increased production is justified, as these studies would seem to indicate, an equitable allocation of demand to the leading producing states and consideration of necessary stock withdrawals would result in daily allowables as suggested at the bottom of the accompanying summary. Comparison with actual production for the week ending April 11, however, shows that Texas has already exceeded the maximum economic production limit by about 24,000 barrels daily, while subsequent developments have undoubtedly created an excess of perhaps 75,000 barrels. If production in Texas can be cut back to a limit of 814,000 barrels daily, it is seen that California and Oklahoma would be justified in increasing their production limits to 576,000 and 545,000 barrels, respectively.

Committee Recommendations

Notwithstanding these facts, it is recommended by the Oil States Advisory Committee, under the chairmanship of Cicero I. Murray, that production of the United States be limited throughout the period April 1 to October 1, to 2,199,000 barrels daily. This committee stated that in its opinion no sufficient reasons or inducements have been shown by reports of either the Federal Oil Conservation Board or the American Petroleum Institute to justify making any increases in allowable production during the six-month period. The committee recommended that there be no increase in allowables of production of crude oil within such period of time, beyond the present allowables established in those states where proration or conservation orders are in force, nor above the actual production of those states now producing oil and not having proration or conservation regulations. Following are the present, recommended, daily allowable or production figures:

	Barrels
Texas	714,000
Oklahoma	550,000
Kansas	110,000
California	500,000
Arkansas	50,000
Louisiana	65,000
New Mexico	40,000
Eastern States	110,000
Rocky Mountain States	60,000
Total for U. S.	2,199,000

Analysis of both reports, that of the Federal Oil Conservation Board and the American Petroleum Institute, reveals a number of interesting and valuable facts. The voluntary committee on Petroleum economics consisting of E. B. Swanson, chairman; John W. Frey, Martin Van Couvering, Alfred G. White and Howard Bennette, stated that the demand for gasoline has been influenced during recent months by business depression and unusual weather conditions. This committee reached the conclusion that the effect of business depression would remain as an unfavorable factor during the first two months of the present period. The report stated that gasoline consumption would exceed that of the preceding year during June, July and August, and that April, May and September domestic demand will not equal the 1930 levels. Particular stress was laid upon the probability that exports of gasoline would show a severe decline, compared with last year. The figures of expected foreign demand show a decline under the same period of last year of about 5,300,000 barrels. This committee placed the total domestic and foreign gasoline demand at 254,108,000 barrels, a decline under the same period of last year of about 0.8 per cent.

The committee on refinery statistics and economics, A. P. I., consisting of R. C. Holmes, chairman; John D. Gill, sub-committee chairman; Fred Van Covern, secretary; W. C. Allen, Oliver S. Ambrose, H. K. Davis, Clarel B. Mapes, A. J. McIntosh, E. P. Salisbury, Warren Sinsheimer and Earl Wagy, estimated the gasoline demand for this period at a total of 252,127,000 barrels. This committee placed the probable domestic consumption at 225,000,000 barrels and exports at about 27,127,000 barrels. Attention was directed to the probability that while a nominal increase is expected in domestic gasoline demand over last year, the outlook is for a decrease in exported gasoline of from 15 to 17 per cent. The report stated, however, that coincident with such decline in foreign gasoline demand is the prospect of a nearly corresponding reduction in importations of gasoline and its equivalent in crude oil.

Arrive at Same Conclusions

Despite the fact that different procedures were employed in the determination of needed refinery output, it is highly significant that both committees arrived at the same conclusion, namely 224,000,000 barrels. Table 1, of the A. P. I. Committee report estimates refinery gasoline production at 224,311,000 barrels. Table 3, federal oil conservation committee report places needed refinery gasoline production at 224,140,000 barrels. Estimates previously made by THE OIL WEEKLY placed needed refinery gasoline production for this period at 225,864,000 barrels.

(*Continued on page 67*)

American Petroleum Institute Economic Survey

April 1 to October 1, 1931

Report of Sub-Committee on Refinery Statistics and Economics of the American Petroleum Institute. The committee consists of John D. Gill, chairman; Fred Van Couvern, secretary; W. C. Allen, Oliver S. Ambrose, H. K. Davis, Clarel B. Mapes, A. J. McIntosh, E. P. Salisbury, Warren Seinsheimer and Earl Wagy.

General Statistical Summary

(All Figures are in Barrels of 42 U. S. gallons)

TABLE NO. 1

Gasoline Demand During April 1 to October 1 Period

	Actual 1930 Total	Actual 1930 Daily	Estimated 1931 Total	Estimated 1931 Daily	Per Cent Increase
Domestic Demand	217,508,000	1,188,600	225,000,000	1,229,000	+ 3.5
Exports	32,672,000	178,500	27,127,000	148,200	—17.0
Total Demand	250,180,000	1,367,100	252,127,000	1,377,700	+ 0.8

Gasoline	Actual 1930 Total	Actual 1930 Daily	Estimated 1931 Total	Estimated 1931 Daily	Basis	Refer. Table
Total Demand	250,180,000	1,367,100	252,127,000	1,377,700	A	No. 1
Stocks April 1	55,228,000		48,000,000		B	No. 2
Stocks Oct. 1	38,242,000		27,184,000		C	No. 2
Change in Stocks (+ or —*)	—16,986,000	—92,800	—20,816,000	—113,700		
New Supply	233,194,000	1,274,300	231,311,000	1,264,000	D	
Imports (deduct)	9,863,000	53,900	7,000,000	38,300	A	No. 2
Refinery Output	223,331,000	1,220,400	224,311,000	1,225,700	F	No. 2
From Natural (deduct)	21,921,000	119,800	21,000,000	114,700	E	No. 3
From Cracked	84,485,000	461,700	88,461,000	483,400	F	No. 3
From Straight-Run	116,925,000	638,900	114,850,000	627,600	F	No. 3
Crude						
Runs to Stills (E of C.)	374,574,000	2,046,800	389,975,000	2,131,000		
Runs to Stills (Cal.) (add)	104,137,000	569,100	79,479,000	434,300	G	No. 3
Total U. S.	478,711,000	2,615,900	469,454,000	2,565,300	H	No. 3
Exports (add)	12,952,000	70,800	13,500,000	73,800	A	No. 4
Used as Such (add)	16,072,000	87,800	17,000,000	92,900	A	No. 4
Total Demand	507,735,000	2,774,500	499,954,000	2,732,000		
Imports (deduct)	33,276,000	181,800	30,000,000	163,900	A	No. 4
Demand for U.S. Crude	474,459,000	2,592,700	469,954,000	2,568,100		No. 4
Gas and Fuel Oil East of California						
Note: Due to the abundance of oil on the Pacific Coast, only the fuel oil situation east of California is presented below.						
ation east of California is presented below.						
Total Demand	137,265,000	750,100	142,000,000	776,000	A	No. 4
Refinery Production (deduct)	130,325,000	712,200	137,466,000	751,200	I	No. 4
Production Deficit	6,940,000	37,900	4,534,000	24,800		
Imports (deduct)	12,745,000	69,600	13,000,000	71,000	A	No. 4
Intercoastal Receipts (deduct)	1,741,000	9,500	1,200,000	6,600	J	No. 4
Additions to Storage	+7,546,000	+41,200	+9,666,000	+52,800		
Stocks April 1	28,274,000		26,500,000		B	No. 4
Stocks Oct. 1	35,820,000		36,166,000			No. 4

A—Concensus of entire committee.
B—Estimated on Bureau of Mines basis from A. P. I. weekly reports.
C—Assumed stock program—(working stocks).
D—Total demand adjusted for change in stocks.
E—Concensus of entire committee.
F—Based upon expected yield from crude oil.
G—Crude oil required to provide estimated gasoline requirements.
H—Based upon average straight run yield of 24.46% and cracked of 18.84%.
I—Based upon average net gas and fuel oil yield of 35.25% east of California.
J—Based upon composite estimate compiled from individual reports of California operators.

TABLE NO. 2

Method of Determining Gasoline Shipments by Districts, April 1—October 1, 1931 Period.

(All figures in barrels of 42 U. S. Gallons)

	Estimated Domestic Demand in Refinery Areas	Estimated Shipments to other Refinery Areas	Estimated Receipts from other Refinery Areas	Estimated Exports	Estimated net shipments by refinery areas	Estimated stocks April 1, 1931 (See Note	Working stocks required Oct. 1, 1931 (2) Below)	Required net withdrawal from stocks	Estimated imports	Estimated net refinery production	
										Total col. 5—(8+9)	Average per day
	(Add) (1)	(add) (2)	(Deduct) (3)	(add) (4)	(5)	(6)	(7)	(Deduct) (8)	(Deduct) (9)	(10)	(11)
East Coast	66,629,000	11,015,000	34,924,000	3,450,000	46,170,000	8,650,000	4,696,000	3,954,000	6,674,000	35,542,000	194,200
Appalachian	17,956,000	2,109,000	11,711,000	550,000	8,904,000	2,050,000	888,000	1,162,000	1,000	7,741,000	42,300
Indiana, Illinois	52,948,000	157,000	15,909,000	928,000	38,124,000	5,500,000	3,925,000	1,575,000	.....	36,549,000	199,700
Oklahoma, Kansas	34,814,000	2,000,000	1,356,000	1,023,000	36,481,000	4,000,000	1,914,000	2,086,000	.....	34,395,000	188,000
Texas	11,289,000	34,758,000	.....	9,600,000	55,647,000	7,625,000	4,319,000	3,306,000	.....	52,341,000	286,000
Louisiana-Arkansas	8,280,000	3,643,000	1,685,000	6,850,000	17,088,000	2,075,000	1,250,000	825,000	311,000	15,952,000	87,200
Rocky Mountain	7,484,000	1,238,000	.....	99,000	8,821,000	2,000,000	1,173,000	827,000	11,000	7,983,000	43,600
California	25,600,000	10,859,000	194,000	4,627,000	40,892,000	*16,100,000	*9,019,000	7,081,000	3,000	33,808,000	184,700
Total U. S.	225,000,000	65,779,000	65,779,000	27,127,000	252,127,000	48,000,000	27,184,000	20,816,000	7,000,000	224,311,000	1,225,700
Texas Gulf Coast					40,622,000	6,225,000	3,501,000	2,724,000	.....	37,898,000	207,100
Louisiana Gulf Coast		(No Basis for Estimate)			12,153,000	1,900,000	1,115,000	785,000	311,000	11,057,000	60,400
Total Gulf Coast	.....	.....	.....	.....	52,775,000	8,125,000	4,616,000	3,509,000	311,000	48,955,000	267,500
Inland Texas					15,025,000	1,400,000	818,000	582,000	.....	14,443,000	78,900
North Louisiana and Arkansas		(No Basis for Estimate)			4,935,000	175,000	135,000	40,000	.....	4,895,000	26,800

NOTES: [1]Relatively small offsetting shipments between areas have been eliminated from the above calculations.
[2]In all the refinery districts indicated except California, figures in these columns represent gasoline stocks at refineries. In *California they represent the total inventory of finished gasoline and engine distillate held by reporting companies wherever located within continental United States, that is—stocks at refineries, water terminals and all sales distributing stations, including products in transit thereto.

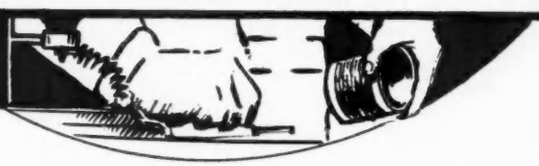
TABLE NO. 3

Method of Determining Crude Runs to Stills by Districts Based on 27,184,000 Barrel Gasoline Stock on October 1, 1931.

	Total Amount of Gasoline Refineries Would Produce During April 1—Oct. 1 Period		Estimated Amount of Natural Gasoline that Would be Blended at Refineries During April 1—Oct. 1 Period		Estimated Amount of Gasoline that Would be Produced from Crude Run to Stills During April 1—Oct. 1 Period		Estimated Amount of Cracked Gasoline Refineries Would Produce During April 1—Oct. 1 Period			Estimated Amount of Straight-Run Gasoline Refineries Would Produce During April 1—Oct. 1 Period			Estimated Crude Oil that Would be Run to Stills During April 1—Oct. 1 Period to Produce Estimated Amount of Straight-Run and Cracked Gasoline	
	Total	Daily	Total	Daily	Total	Daily	Total	Daily	Percent	Total	Daily	Percent	Total	Daily
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
East Coast	35,542,000	194,200	1,000,000	5,400	34,542,000	188,800	17,457,000	95,400	19.01	17,085,000	93,400	18.60	91,854,000	501,900
Appalachian	7,741,000	42,300	290,000	1,600	7,451,000	40,700	2,668,000	14,600	16.00	4,783,000	26,100	28.68	16,677,000	91,200
Indiana, Illinois	36,549,000	199,700	1,400,000	7,600	35,149,000	192,100	16,937,000	92,600	26.84	18,212,000	99,500	28.86	63,104,000	344,800
Oklahoma, Kansas	34,395,000	188,000	2,700,000	14,800	31,695,000	173,200	12,351,000	67,500	20.31	19,344,000	105,700	31.81	60,812,000	332,300
Texas	52,341,000	286,000	6,750,000	36,900	45,591,000	249,100	21,143,000	115,500	19.26	24,448,000	133,600	22.27	109,778,000	599,900
Louisiana, Arkansas	15,952,000	87,200	2,060,000	11,300	13,892,000	75,900	7,423,000	40,600	21.30	6,469,000	35,300	18.56	34,852,000	190,400
Rocky Mountain	7,983,000	43,600	800,000	4,300	7,183,000	39,300	3,609,000	19,700	27.98	3,574,000	19,600	27.71	12,898,000	70,500
California	33,808,000	184,700	6,000,000	32,800	27,808,000	151,900	6,873,000	37,500	8.65	20,935,000	114,400	26.34	79,479,000	434,300
Total U. S.	224,311,000	1,225,700	21,000,000	114,700	203,311,000	1,111,000	88,461,000	483,400	18.84	114,850,000	627,600	24.46	469,454,000	2,565,300
Texas Gulf	37,898,000	207,100	5,200,000	28,400	32,698,000	178,700	17,174,000	93,800	21.74	15,524,000	84,900	19.65	79,000,000	431,700
Louisiana Gulf	11,057,000	60,400	1,230,000	6,700	9,827,000	53,700	5,173,000	28,300	22.94	4,654,000	25,400	20.64	22,549,000	123,200
Total Gulf	48,955,000	267,500	6,430,000	35,100	42,525,000	232,400	22,347,000	122,100	22.00	20,178,000	110,300	19.86	101,549,000	554,900
Inland Texas	14,443,000	78,900	1,550,000	8,500	12,893,000	70,400	3,969,000	21,700	12.90	8,924,000	48,700	29.00	30,778,000	168,200
N. La. and Ark.	4,895,000	26,800	830,000	4,600	4,065,000	22,200	2,250,000	12,300	18.29	1,815,000	9,900	14.75	12,303,000	67,200

See Page 34

The Official OIL DOCTOR *Says*



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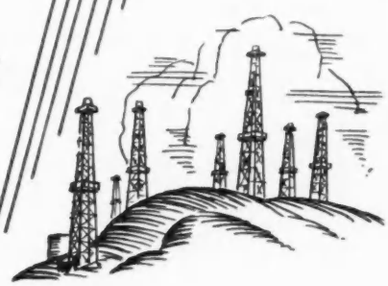

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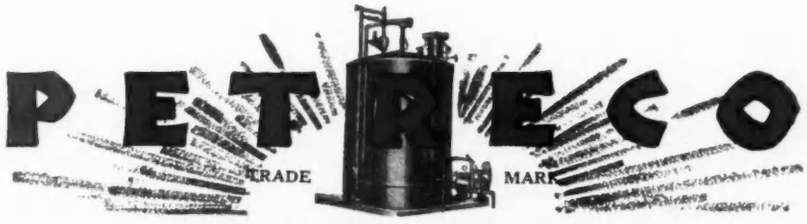

Fully covered by process and apparatus patents

TABLE NO. 4

Crude Oil Situation in the United States

Figures in Barrels of 42 Gallons

April 1, 1931, to October 1, 1931

Based on Gasoline Stock Situation as of October 1, 1931 of.....27,184,000 barrels

	Total	Daily Avg.
Crude to Stills	469,454,000	2,565,300
Exports	13,500,000	73,800
Used as Such	**17,000,000**	**92,900**
Crude Required	499,954,000	2,732,000
Imports	**30,000,000**	**163,900**
Needed U. S. Supply	469,954,000	2,568,100

Gas and Fuel Oil Situation—East of California

Figures in Barrels of 42 Gallons

April 1, 1931, to October 1, 1931

Based on Gasoline Stock Situation as of October 1, 1931, of.....27,184,000 barrels

	Total	Daily Avg.
Crude to Stills	469,454,000	2,565,300
California	**79,479,000**	**434,300**
East of California	389,975,000	2,131,000
Gas and Fuel Yield	35.25%	
Production	137,466,000	751,200
Imports	13,000,000	71,000
Intercoastal	1,200,000	6,600
Total Supply	151,666,000	828,800
Total Demand	142,000,000	776,000
Addition to Storage	9,666,000	52,800
Stocks:		
April 1, 1931	26,500,000	
Oct. 1, 1931	36,166,000	

Gas and Fuel Oil Situation East of California

27,184,000 Gasoline Stock Basis

	Stocks April 1, 1931	Production	Supply Imports	Intercoastal Receipts	Refinery Shipments	Stocks Oct. 1, 1931
East Coast	7,050,000	41,563,000	11,700,000	1,175,000	49,350,000	12,138,000
Appalachian	1,125,000	3,125,000	.....	.....	3,125,000	1,125,000
Ind., Ill., Ky.	3,150,000	16,675,000	.....	.....	13,575,000	6,250,000
Okla., Kans., Mo.	3,900,000	17,050,000	.....	.....	15,100,000	5,850,000
Texas	8,000,000	41,575,000	1,040,000	.....	45,200,000	5,415,000
La.-Ark.	2,400,000	14,025,000	260,000	25,000	12,550,000	4,160,000
Rocky Mountain	875,000	3,453,000	.....	.....	3,100,000	1,228,000
Total, East of California	26,500,000	137,466,000	13,000,000	1,200,000	142,000,000	36,166,000

TABLE NO. 5

Estimated Production of Refinery Gasoline Necessary to Arrive at 27,184,000 Stocks October 1, 1931

(Based on assumption that estimated refinery shipments of 245,127,000 barrels April 1, 1931, to Oct. 1, 1931, materialize)

(Barrels of 42 gallons)

	East Coast	Appalachian	Indiana Illinois Kentucky	Oklahoma Kansas Missouri	Inland Texas	North La.-Ark.	Texas Gulf	Louisiana Gulf	Rocky Mountain	California	Total United States
April, 1931	5,637,000	1,277,000	5,572,000	5,422,000	2,291,000	803,000	6,206,000	1,820,000	1,280,000	4,954,000	35,262,000
May, 1931	5901,000	1,341,000	5,939,000	5,634,000	2,318,000	799,000	6,067,000	1,998,000	1,377,000	5,684,000	37,058,000
June, 1931	5,879,000	1,293,000	6,012,000	5,698,000	2,238,000	788,000	6,465,000	1,729,000	1,286,000	5,847,000	37,235,000
July, 1931	5,836,000	1,287,000	6,441,000	5,943,000	2,365,000	853,000	6,048,000	1,875,000	1,338,000	6,215,000	38,201,000
August, 1931	6,231,000	1,256,000	6,540,000	5,957,000	2,640,000	799,000	6,518,000	1,961,000	1,404,000	5,812,000	39,118,000
September, 1931	6,058,000	1,287,000	6,045,000	5,741,000	2,591,000	853,000	6,594,000	1,674,000	1,298,000	5,296,000	37,437,000
Total	35,542,000	7,741,000	36,549,000	34,395,000	14,443,000	4,895,000	37,898,000	11,057,000	7,983,000	33,808,000	224,311,000
Daily Average	194,200	42,300	199,700	188,000	78,900	26,800	207,100	60,400	43,600	184,700	1,225,700

Continued on Page 36

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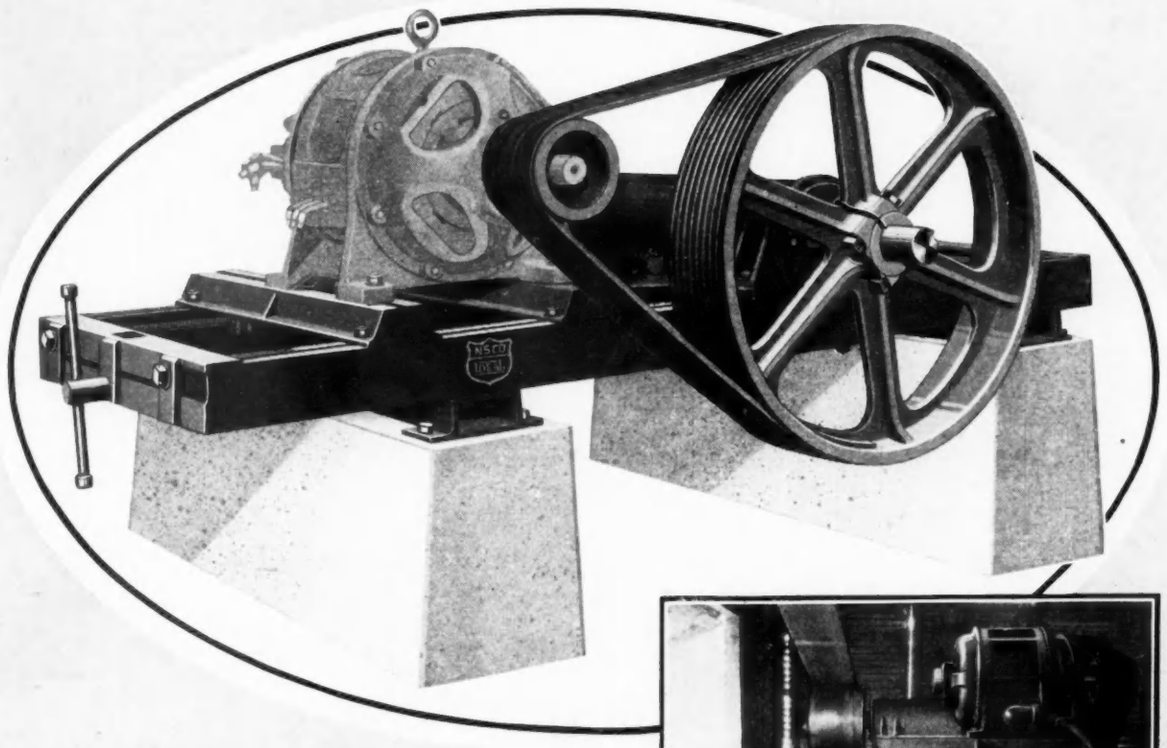

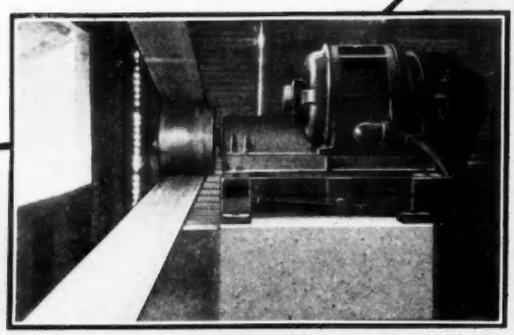

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THE NATIONAL SUPPLY COMPANIES

TABLE NO. 5 (CONTINUED FROM PAGE 34)

Estimated Shipments of Gasoline from Refinery Production and Stocks Used in the Above Production Estimates

(Barrels of 42 gallons)

	East Coast	Appalachian	Indiana Illinois Kentucky	Oklahoma Kansas Missouri	Inland Texas	North La.-Ark.	Texas Gulf	Louisiana Gulf	Rocky Mountain	California	Total United States
April, 1931	5,708,000	1,421,000	5,689,000	5,462,000	2,324,000	808,000	6,378,000	1,910,000	1,339,000	5,896,000	36,935,000
May, 1931	6,383,000	1,503,000	6,171,000	5,793,000	2,418,000	805,000	6,548,000	2,153,000	1,437,000	6,406,000	39,617,000
June, 1931	6,943,000	1,465,000	6,223,000	5,959,000	2,413,000	795,000	7177,000	1,899,000	1,351,000	6,937,000	41,162,000
July, 1931	7,113,000	1,516,000	6,862,000	6,712,000	2,508,000	861,000	6,665,000	2,114,000	1,526,000	7,631,000	43,508,000
August, 1931	6,907,000	1,613,000	6,950,000	6,664,000	2,740,000	807,000	6,960,000	2,069,000	1,749,000	7,300,000	43,759,000
September, 1931 ...	6,442,000	1,385,000	6,229,000	5,891,000	2,622,000	859,000	6,894,000	1,697,000	1,408,000	6,719,000	40,146,000
Total	39,496,000	8,903,000	38,124,000	36,481,000	15,025,000	4,935,000	40,622,000	11,842,000	8,810,000	40,889,000	245,127,000
Daily Average	215,800	48,700	208,300	199,400	82,100	27,000	222,000	64,700	48,100	223,400	1,339,500

TABLE NO. 6

Consolidated Statement of Estimated Gasoline Production, Shipments and Resultant Stocks

(Based on assumption that 27,184,000 barrels is adequate on October 1, 1931). (Barrels of 42 gallons).

	East Coast	Appalachian	Ind ana Illinois Kentucky	Oklahoma Kansas Missouri	Inland Texas	North La.-Ark.	Texas Gulf	Louisiana Gulf	Rocky Mountain	*California	Total United States
Estimated Stocks:											
April 1, 1931 ..	8,650,000	2,050,000	5,500,000	4,000,000	1,400,000	175,000	6,225,000	1,900,000	2,000,000	*16,100,000	48,000,000
All gasoline stocks figures in this report are on Bureau of Mines basis and are comparable with the Bureau's monthly summaries.											
April, 1931:											
Production	5,637,000	1,277,000	5,572,000	5,422,000	2,291,000	803,000	6,206,000	1,820,000	1,280,000	4,954,000	35,262,000
Shipments	5,708,000	1,421,000	5,689,000	5,462,000	2,324,000	808,000	6,378,000	1,910,000	1,339,000	5,896,000	36,935,000
Closing Stocks ..	8,579,000	1,906,000	5,383,000	3,960,000	1,367,000	170,000	6,053,000	1,810,000	1,941,000	15,158,000	46,327,000
May, 1931:											
Production	5,901,000	1,341,000	5,939,000	5,634,000	2,318,000	799,000	6,067,000	1,998,000	1,377,000	5,684,000	37,058,000
Shipments	6,383,000	1,503,000	6,171,000	5,793,000	2,418,000	805,000	6,548,000	2,153,000	1,437,000	6,406,000	39,617,000
Closing Stocks ..	8,097,000	1,744,000	5,151,000	3,801,000	1,267,000	164,000	5,572,000	1,655,000	1,881,000	14,436,000	43,768,000
In all the refining districts indicated except California, figures in these columns represent gasoline stocks at refineries.											
June, 1931:											
Production	5,879,000	1,293,000	6,012,000	5,698,000	2,238,000	788,000	6,465,000	1,729,000	1,286,000	5,847,000	37,235,000
Shipments	6,943,000	1,465,000	6,223,000	5,959,000	2,413,000	795,000	7,177,000	1,899,000	1,351,000	6,937,000	41,162,000
Closing Stocks ..	7,033,000	1,572,000	4,940,000	3,540,000	1,092,000	157,000	4,860,000	1,485,000	1,816,000	13,346,000	39,841,000
In *California they represent the total inventory of finished gasoline and engine distillate held by reporting companies wherever located within											
July, 1931:											
Production	5,836,000	1,287,000	6,441,000	5,943,000	2,365,000	853,000	6,048,000	1,875,000	1,338,000	6,215,000	38,201,000
Shipments	7,113,000	1,516,000	6,862,000	6,712,000	2,508,000	861,000	6,665,000	2,114,000	1,526,000	7,631,000	43,508,000
Closing Stocks ..	5,756,000	1,343,000	4,519,000	2,771,000	949,000	149,000	4,243,000	1,246,000	1,628,000	11,930,000	34,534,000
Continental United States, that is—stocks at refineries, water terminals and all sales distributing stations, including products in transit thereto.											
August, 1931:											
Production	6,231,000	1,256,000	6,540,000	5,957,000	2,640,000	799,000	6,518,000	1,961,000	1,404,000	5,812,000	39,118,000
Shipments	6,907,000	1,613,000	6,950,000	6,664,000	2,740,000	807,000	6,960,000	2,069,000	1,749,000	7,300,000	43,759,000
Closing Stocks ..	5,080,000	986,000	4,109,000	2,064,000	849,000	141,000	3,801,000	1,138,000	1,283,000	10,442,000	29,893,000
September, 1931:											
Production	6,058,000	1,287,000	6,045,000	5,741,000	2,591,000	853,000	6,594,000	1,674,000	1,298,000	5,296,000	37,437,000
Shipments	6,442,000	1,385,000	6,229,000	5,891,000	2,622,000	859,000	6,894,000	1,697,000	1,408,000	6,719,000	40,146,000
Closing Stocks ..	4,696,000	888,000	3,925,000	1,914,000	818,000	135,000	3,501,000	1,115,000	1,173,000	9,019,000	27,184,000
Total 6 Months:											
Production	35,542,000	7,741,000	36,549,000	34,395,000	14,443,000	4,895,000	37,898,000	11,057,000	7,983,000	33,808,000	224,311,000
Shipments	39,496,000	8,903,000	38,124,000	36,481,000	15,025,000	4,935,000	40,622,000	11,842,000	8,810,000	40,889,000	245,127,000
Closing Stocks ..	4,696,000	888,000	3,925,000	1,914,000	818,000	135,000	3,501,000	1,115,000	1,173,000	9,019,000	27,184,000

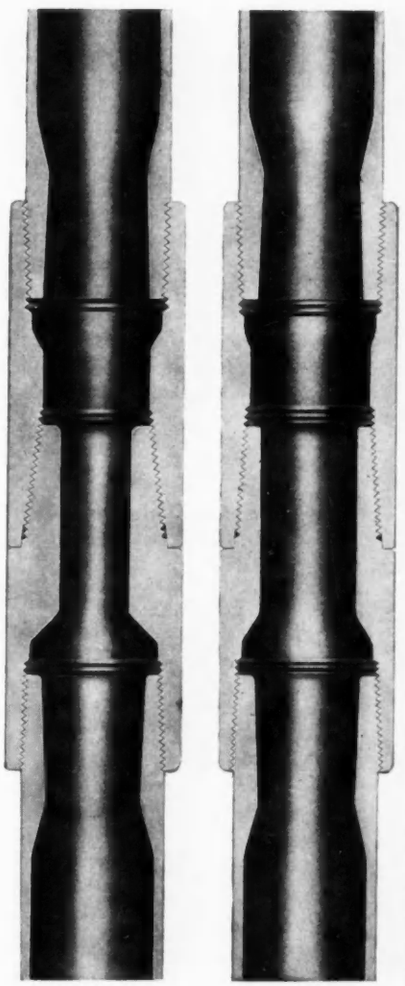
FRICTION

LOSES LONG FOUGHT BOUT

TO THE

REED FULL HOLE TOOL JOINT

. . . . For through their use equal volumes of slush can be delivered at the bottom of the hole with only ONE-THIRD of the pump pressure required with other tool joints . . . . and they are destined to set a new standard in the industry.



A vivid disclosure of the nearly frictionless slush flow obtainable through Reed Full Hole Tool Joints as against the swage nipple effect produced through use of ordinary tool joints. (An actual scaled cross section comparison of five inch joints.)

READ EVERY DETAIL ON THE NEXT PAGE

Q—Why should I change from my present equipment to Reed Full Hole Tool Joints?

A—First, because of the absolute economy of their use.

* * *

Q—Is the price of these tool joints any lower than any other tool joints?

A—No! It is exactly the same price as any other alloy steel tool joint of the same size.

* * *

Q—Then where is the economy?

A—In the saving you will effect in your pumps; replacing valves, liners, packing, new heads, etc., as well as in your swivel, power costs, time saving, and numerous other items of rig cost.

* * *

Q—Why will the Reed Full Hole Tool Joint cut down these costs?

A—Because the diameter of the hole through the pin of the Reed Full Hole Tool Joint is exactly the same as the inside diameter of the upset of the pipe on which it is used; thereby eliminating the effect of a swaged nipple in the pipe wherever a tool joint is used, and permitting of as free and frictionless flow of the full slush volume to the bottom of the hole as is possible with the drill pipe now in common usage.

* * *

Q—How much bigger hole through the pipe is furnished by the Reed Full Hole Tool Joint?

A—The cross sectional area of the Reed Full Hole Tool Joint is more than double that of any other joint, and permits of more than twice the amount of slush passage. And as a "loop" in a pipe line serves the pipeliner in moving greater quantities of fluid at a greater velocity, so does the Reed Full Hole Tool Joint permit the driller to put greater quantities of slush to the bottom of the hole at greater velocity, with less power and with less friction than with any other tool joint.

* * *

Q—With this full hole through the pin, is the joint as strong?

A—The torsional strength of this joint is greater than that of any ordinary tool joint.

Q—How is this explained?

A—It is due to the fact that torsional strength of a tubular section is dependent upon section modulus, or in other words, the cross section with respect to diameter.

* * *

Q—Can you prove this?

A—We HAVE proven it through, not only engineering test after test, but also through exhaustive field tests in the Gulf Coast, Mid-Continent and California fields; and in every case this tool joint has proven its ability to stand the gaff under every test to which it has been subjected, either by itself, or in competition with other joints.

* * *

Q—Are you willing to guarantee these joints?

A—The Reed Roller Bit Company will gladly guarantee the Reed Full Hole Tool Joint to give as long life, as good service, and to make up and break out as quickly and easily as any tool joint now offered to the trade.

* * *

Q—Isn't that a pretty strong statement?

A—It is! But the Reed Roller Bit Company has been manufacturing these tool joints for six years, and in that time has developed the particular type and quality of alloy steel best adapted for such a joint; the method of forging; the electric heat treatment; the type of machine work necessary; and gives such careful inspection to each and every joint manufactured and shipped to the trade, that it is possible for us to make that guarantee.

* * *

Q—How was the Reed Full Hole Tool Joint originally started?

A—It was a necessity for the operation of the Reed Wire Line Bit; and quickly proved of added and invaluable assistance to Reed's Barrett-Robishaw Drilling-Coring Bit. And with the advent of deeper drilling, it now becomes a necessity in the reduction of friction encountered in moving long columns of slush.

* * *

Q—Your contention is that present joints should be replaced with Reed Full Hole Tool Joints?

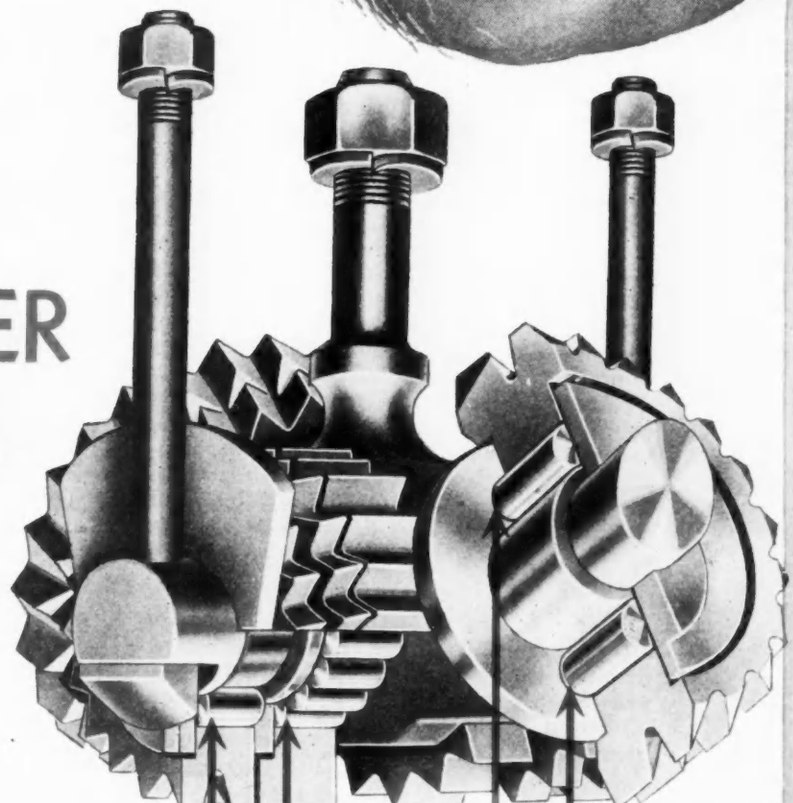
A—Yes! Whenever a new string is bought, or replacements are made, economy in operation demands every consideration of the Reed Full Hole Tool Joint.

FRICTION

AGAIN LOSES BIG BATTLE TO THE

REED ROLLER BEARING ROCK BIT

. . . . the product of years of unremitting research . . . . this bit is today outperforming bits of all types in most of the rotary fields of the world . . . . and a new standard has been set by this new Reed Rock Bit for Speed—Economy—Durability.



The new single unit cutter assembly of the Reed Type 31 Roller Bearing Rock Bit

READ EVERY DETAIL ON THE NEXT PAGE

Q—Is it true that the Reed Roller Bit Co. does have a frictionless bit?

A—As nearly frictionless as it is possible for any bit to be.

* * *

Q—How is this accomplished?

A—By the insertion of roller bearings between all cutters and their respective bearing journals.

* * *

Q—Who makes these roller bearings?

A—The Reed Roller Bit Company, after more than three years of research work has developed their own roller bearings for this purpose.

* * *

Q—Will they stand up?

A—In the 9⅞-inch roller bearing bit, for instance, these roller bearings will crush only with an excess of 95,000 pounds pressure.

* * *

Q—How are these roller bearings held in alignment?

A—By special grooves in the cutters and in the bearing pins on which they rotate.

* * *

Q—How many parts are there in this assembly?

A—While there are several parts in the assembly, it comes to the customer as a single unit, which may be quickly and easily dropped into a bit head and securely held in place by three bolts up through the bit head.

* * *

Q—What sort of bolts are these, and how are they fastened?

A—The center, or bridge bolt, is an integral part of the bridge itself, and is bolted into the bit head through the removable wash plate. This bolt has a tensile strength of 135,000 pounds per square inch of cross section. The two side, or cross pin bolts, are especially drop forged so that head of same will fit into cross pin pockets, and as a double precaution, a secondary head is countersunk into the cross pin, after the manner of a wood screw head. Bolts project up through side lugs of the head and are held in place with a left-hand threaded nut, countersunk into the side of the bit head.

* * *

Q—Are there any pockets in this bit head?

A—No! All pockets have been eliminated through the use of the new type bridge, which replaces both bridge, side cutter pins and washers in older types of the Reed Bit.

* * *

Q—Is this bit slush lubricated?

A—It is! And furthermore the head is provided with replaceable jet plate, held securely in the head by four cap screws, and through which has been drilled a series of slush holes, so directing entire volume of slush that each and every cutter is thoroughly and completely washed at all times, and a large jet of slush impinges directly upon the bottom of the hole, removes all cuttings therefrom as fast as they are cut, and prevents recutting of formation.

* * *

Q—How can a slush jet directly hit the bottom of the hole?

A—A spacer is provided between two of the cross rollers on the wide side of the bridge to permit of this particular action.

* * *

Q—Won't these slush jets cut out the lugs on the side of the bit head?

A—To prevent this, a large apron type washer is provided, at the ends of the cross roller assembly on each set of cutters, to take this wear, and a floating washer between outside cross rollers and apron washer still further prevents wear.

* * *

Q—How are the teeth constructed?

A—The teeth on the side cutters are long and deep and are cut spirally right and left, in order to attack formation at the high point on each rotation of drill stem. These cutters are also grooved around each cutter, off center, to facilitate penetration of formation, and the bevel of each tooth, back and across the flank has been hard surfaced with Reedite, a tungsten carbide compound of almost diamond-like hardness. Large cross rollers are also cut spirally, right and left, for the same purpose.

* * *

Q—Are any parts of the cutter assembly salvageable?

A—Many parts may be used a second and a third time, particularly bridges, cross pins, cross pin bolts, washers and inside cross cutters.

* * *

Q—Is there tong space on the head?

A—Ample tong space is provided on every bit head.

* * *

Q—Where has this bit been successfully used?

A—In the Gulf Coast, in East Texas, in West Texas, in New Mexico, in Oklahoma, in Kansas, in Wyoming, in California, in Canada, in South America and in Iraq.

* * *

Q—What about its cost?

A—Its cost is no greater than that of previous model friction bearing bits, and the long life, extra footage, speed and salvageability make it — in performance — far and away the most economical rock bit ever offered the industry.

★ ★ ★

REED ROLLER BIT COMPANY » Houston » New York » Los Angeles » Oklahoma City

Federal Oil Conservation Board Economic Survey

April 1 to October 1, 1931

From report of the Voluntary Committee on Petroleum Economics to Secretary Wilbur, chairman of the Federal Oil Conservation Board. The committee reporting consists of E. B. Swanson, chief economist, United States Bureau of Mines, chairman; John W. Frey, Bureau of Foreign and Domestic Commerce; Martin Van Couvering, petroleum engineer, Los Angeles; Alfred G. White, National Industrial Conference Board, New York, and Howard Bennette, Western Petroleum Refiners Association.

TABLE 1

Domestic Crude Oil Requirements April-September, 1931

Producing Areas	Estimated Crude Oil Requirements April 1-Sept. 30, 1931 Barrels	Daily Average April 1-Sept. 30, 1931 Barrels	Per cent of Total
Texas	162,641,000	888,749	35.25
Oklahoma	113,340,000	619,344	24.56
California	96,624,000	528,000	20.94
All Others	88,829,000	485,404	19.25
Total United States	461,434,000	2,521,497	100.00

Table 2

Domestic, Foreign and Total Demand for Motor Fuel,* April-September, 1929, 1930, 1931

(Figures in Thousands of Barrels)

Domestic Demand	April	May	June	July	August	September	Total
1929	32,350	34,677	33,144	37,383	37,981	34,680	210,215
1930	34,380	36,349	35,562	38,185	37,361	37,752	219,589
Change	+ 6.3	+ 4.8	+ 7.3	+ 2.1	— 1.6	+ 8.9	+ 4.5
1931 (Estimate)	32,972	35,931	36,399	40,042	40,683	36,773	222,800
Change	— 4.1	— 1.2	+ 2.4	+ 4.9	+ 8.9	— 2.6	+ 1.5
Exports							
1929	4,640	5,363	5,932	6,152	5,784	4,440	32,311
1930	5,771	5,012	7,322	5,694	6,691	4,029	34,519
Change	+24.4	— 6.5	+23.4	— 7.4	+15.6	— 9.3	+ 6.8
1931 (Estimate)	4,205	4,850	5,375	5,540	5,230	4,000	**29,200
Change	—27.1	— 3.2	—26.6	— 2.7	—21.8	— 0.7	—15.4
Total Demand							
1929	36,990	40,040	39,076	43,535	43,765	39,120	242,526
1930	40,151	41,361	42,884	43,879	44,052	41,781	254,108
Change	+ 8.5	+ 3.3	+ 9.7	+ 0.8	+ 0.7	+ 6.8	+ 4.8
1931 (Estimate)	37,177	40,781	41,774	45,582	45,913	40,773	252,000
Change	— 7.4	— 1.4	— 2.6	+ 3.9	+ 4.2	— 2.4	— 0.8

*"Motor Fuel" includes refinery production of gasoline; motor fuel blended at natural gasoline plants, benzol; and unblended natural gasoline shipped to foreign countries from California.

**Includes approximately 2,000,000 barrels of unblended natural gasoline shipped to foreign countries from California, leaving shipments of approximately 27,200,000 barrels of refined gasoline.

TABLE 3

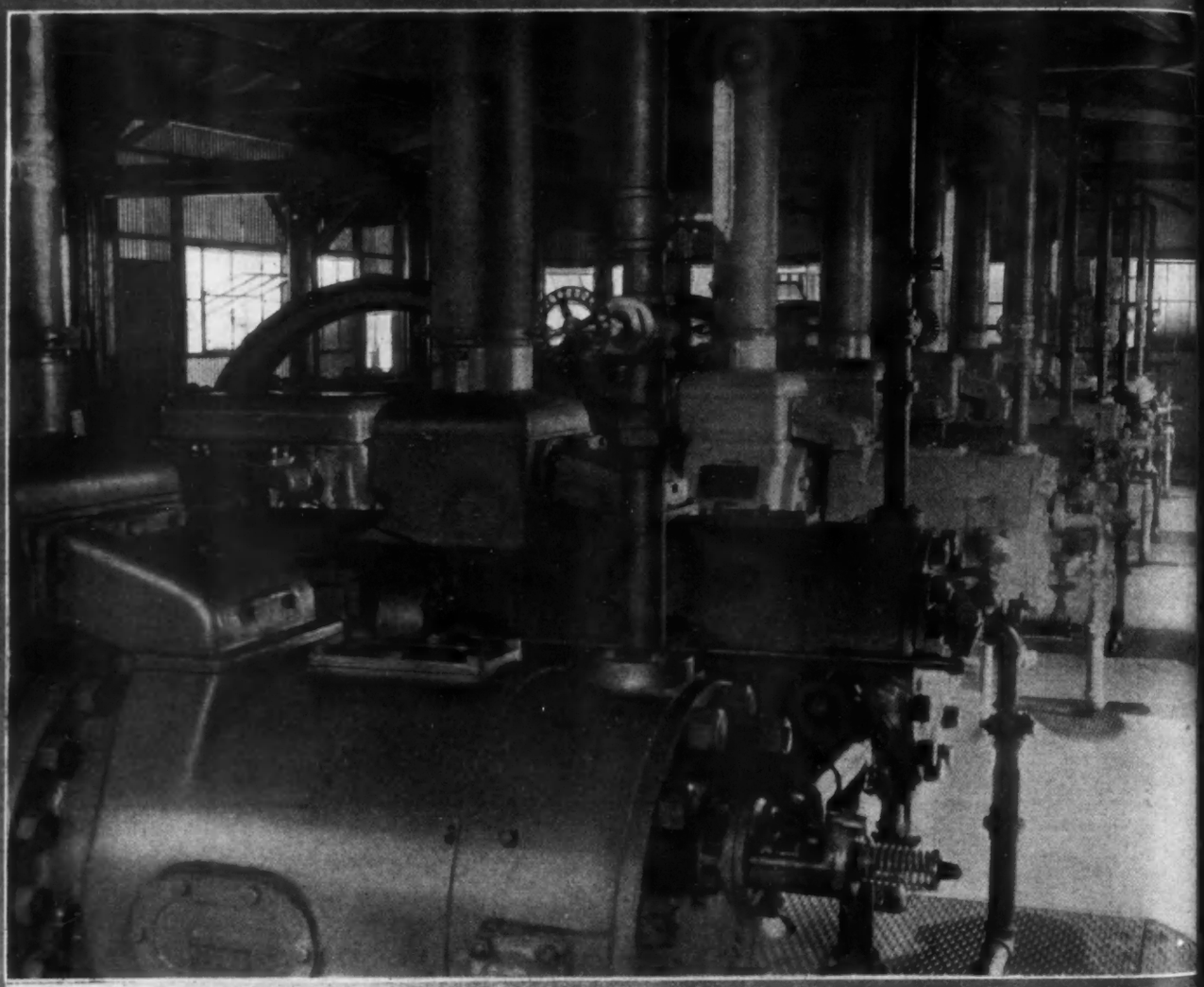
Motor Fuel Supply, April-September, 1929, 1930, 1931

(Figures in Thousands of Barrels)

1929	April	May	June	July	August	September	Total
Motor Fuel Production	35,016	36,671	35,975	38,198	38,968	37,605	222,433
Imports	822	729	732	934	792	901	4,910
Withdrawals from Storage	—1,152	—2,640	—2,369	—4,403	—4,065	— 614	—15,183
Total Supply	36,990	40,040	39,076	43,535	43,765	39,120	242,526
1930							
Motor Fuel Production	38,028	39,204	37,393	37,990	37,772	36,875	227,260
Imports	1,319	1,768	1,670	1,741	1,827	1,538	9,863
Withdrawals from Storage	— 804	— 389	—3,821	—4,148	—4,453	—3,370	—16,985
Total Supply	40,151	41,361	42,884	43,879	44,052	41,781	254,108

(*Table 3 continued on page 44*)

ANOTHER STA
OF IMPROV



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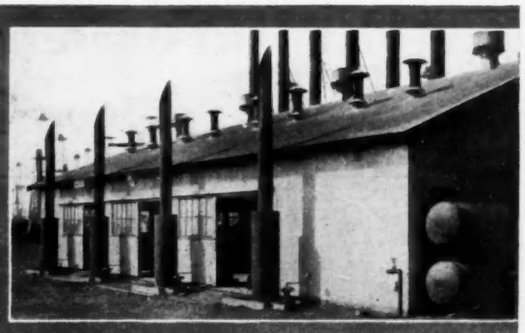

TYPE-10's

WHEREVER these new Type-10's have gone they are giving complete satisfaction. The following opinion, recently expressed by the president of a leading oil company, represents the confidence of users in these improved engines.

"I have never seen engines pull their load and properly function as these new Type-10's do." And that's a whole lot for an oil company chief executive to say about any engine!

Here are a few reasons why these 2-cycle, 200 B. H. P. twin gas engines direct driving compressors, are satisfying executives as well as operating men:

1. New cast steel cylinder head minimizes breakage.
2. Gas economizer permits substantial fuel saving.
3. Improved water circulation with positive flow through exhaust bridges insures adequate cooling.
4. Large inlet port capacity aids thorough scavenging.
5. Water jacket the full length of power cylinder gives complete circulation.
6. Large exhaust port capacity aids thorough scavenging.
7. Ample capacity air valve provides a high percentage of pure air for combustion.
8. Standard power cylinders are invertible; they may be used with either bottom or top exhaust.

EXTERIOR

Gasoline Plant of The Del Rey Oil and Refining Company, Venice, California, containing four Improved Type-10 Compressor Units.

INTERIOR

Four Cooper-Bessemer Improved Type-10, 2-cycle, 200 B. H. P., Twin Gas Engine Driven Compressor Units, In The Gasoline Plant of The Del Rey Oil and Refining Company, Venice, California.

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Los Angeles, California

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New York, N. Y.

Federal Oil Conservation Board Economic Survey

April 1 to October 1, 1931

TABLE NO. 3 (CONTINUED FROM PAGE 41)

Motor Fuel Supply, April-September, 1929, 1930, 1931

(Figures in Thousands of Barrels)

1929	April	May	June	July	August	September	Total
1931 (Estimate)							
Motor Fuel Production	35,892	37,588	36,874	39,154	39,946	38,546	228,000
Imports	1,109	778	1,106	1,136	1,355	1,116	6,600
Withdrawals from Storage	—176	—2,415	—3,794	—5,292	—4,612	—1,111	—17,400
Total Supply	37,177	40,781	41,774	45,582	45,913	40,773	252,000
Gasoline Stocks at Refineries:							
Beginning of month	48,000	47,824	45,409	41,615	36,323	31,711	
End of month	47,824	45,409	41,615	36,323	31,711	30,600	
Total Motor Fuel Production	35,892	37,588	36,874	39,154	39,946	38,546	228,000
Miscellaneous Blending, Etc.	680	675	660	595	630	620	3,860
Refinery Production of Gasoline	35,212	36,913	36,214	38,559	39,316	37,926	224,140

TABLE 4

Estimated Crude Oil Requirements, April-September, 1931

(Thousands of Barrels)

	April	May	June	July	August	September	Total
Crude Run to Stills	72,805	76,322	74,876	79,725	81,290	78,416	463,434
Crude Exports	1,900	2,200	2,000	2,500	2,400	2,000	13,000
Crude Used as Fuel, Losses, etc.	2,460	2,540	2,460	2,540	2,540	2,460	15,000
Total Crude Requirements	77,165	81,062	79,336	84,765	86,230	82,876	491,434
Imports	4,900	5,100	4,900	5,100	5,100	4,900	30,000
Total Domestic Crude Requirements	72,265	75,962	74,436	79,665	81,130	77,976	461,434
Daily Average Domestic Crude Requirements (Barrels)	2,408,800	2,450,000	2,481,200	2,569,800	2,617,100	2,599,200	2,521,500
Stock Withdrawals Resulting if 2,450,000 Barrels is Established as Maximum Daily Production Rate (Barrels)	.....	12,400	936,000	3,713,800	5,180,100	4,476,000	14,318,300
Stock Withdrawals Resulting if 2,500,000 Barrels is Established as Maximum Daily Production Rate (Barrels)	.....	.....	.....	2,163,800	3,630,100	2,976,000	8,769,900

TABLE 5

Estimated Gasoline Shipments and Production, by Refinery Districts, April 1-September 30, 1931

(Figures in thousands of barrels)

Refinery District:	Anticipated Shipments	Estimated Stocks* April 1, 1931	Anticipated Stocks* Sept. 30, 1931	Anticipated Change	Indicated Gasoline Production	Indicated Crude Throughput	Ratio Gasoline to Crude
East Coast	39,112	8,436	4,400	—4,036	35,076	87,690	40.0
Appalachian	9,371	2,053	1,000	—1,053	8,318	17,698	47.0
Indiana-Illinois-Kentucky	37,371	5,381	4,450	—931	36,440	62,291	58.5
Oklahoma-Kansas-Missouri	35,482	4,058	2,500	—1,558	33,924	58,794	57.7
Inland Texas	14,751	1,731	1,600	—131	14,620	29,240	50.0
Northern Louisiana-Arkansas	4,727	187	200	+13	4,740	11,286	42.0
Texas Gulf Coast	40,531	5,900	3,050	—2,850	37,681	78,502	48.0
Louisiana Gulf Coast	11,627	1,939	700	—1,239	10,388	21,200	49.0
Rocky Mountain	8,269	1,985	1,500	—485	7,784	12,395	62.8
California	40,299	16,330	11,200	—5,130	35,169	84,338	41.7
Total United States	241,540	48,000	30,600	—17,400	224,140	463,434	48.4

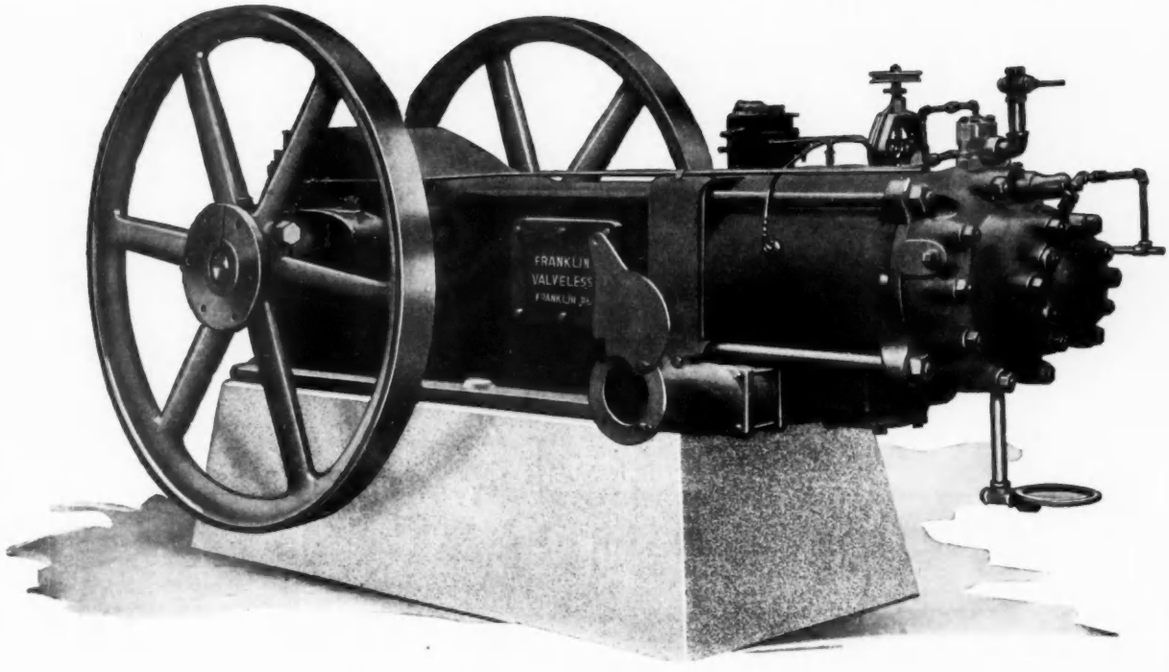
*Stocks east of California are those held at refineries; California include total inventories of finished gasoline and engine distillate held by California companies within Continental United States, (Stocks at refineries, water terminals, and sales distributing stations, including products in transit thereto.)

Put Oil to Work–Pumping Oil–Where Gas is not Available

The Franklin Valveless O. F. Oil Engine burns oil — the very product it helps to produce as a Pumping Engine in oil fields where natural gas is not available or where the acid-content of the gas makes it a poor fuel. Wherever this finest of oil engines has been given a trial users are enthusiastic about its performance, its efficiency and its economy. This Oil Engine is not a compromise or an after-thought. It was designed and built for oil field service — and it may be converted to gas fuel in 90 minutes if necessary. In particular does this Engine have a fine record in displacing prime movers of the electrical type. Investigate the Franklin Valveless O. F. OIL ENGINE — put it to work, check its cost — join the ranks of those who swear by this engine.

No Necessity for a High Monthly Fuel Bill or A Demand Charge –Avoid Penalties

FRANKLIN VALVELESS ENGINE CO.
Franklin, Penna.



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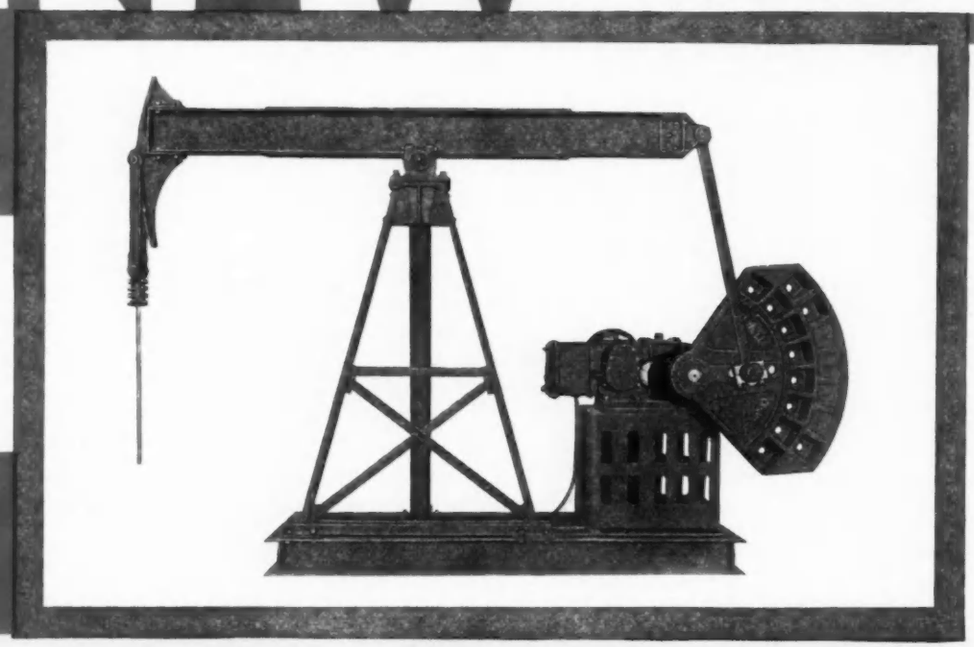
NEW UNIT



OP-300 Unit Pumping Powers have "Oilwell" all-steel walking beam, Sampson post, pitman, base and new type rotating counterbalance, adjustable to lead or lag load. Two-piece cover plate holds removable weights in place. Sub-base is cast iron.

ADVANTAGES

INSTALLATION

1. Only one foundation needed.
2. No shelter house required.
*3. Furnished complete with all mechanical parts.
4. Only one electrical connection necessary.
5. Different sizes of driving units interchangeable on same foundation.

OPERATION

1. Permits pumping at most desirable speeds and length of stroke.
2. Reduces power bills.
3. Fewer shutdowns for servicing.
4. No power wasted by friction and slippage.
5. Length of stroke and speed easily varied at well.
6. Counterbalanced crank adjustable to suit any degree lead or lag.
7. Automatic re-starting after power failure, if desired.

MAINTENANCE

1. All moving parts lubricated.
2. All parts accessible.
3. Durable construction throughout.

**Westinghouse - Nuttall drive unit can be used separately on any standard rig, if desired.*

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ANNOUNCING THE OP-300 SERIES

Westinghouse-Nuttall Gears, Motor and Control all in ONE case - *and* . . .

"Oilwell" new adjustable rotating counterbalance, Sampson post, walking beam and base . . .

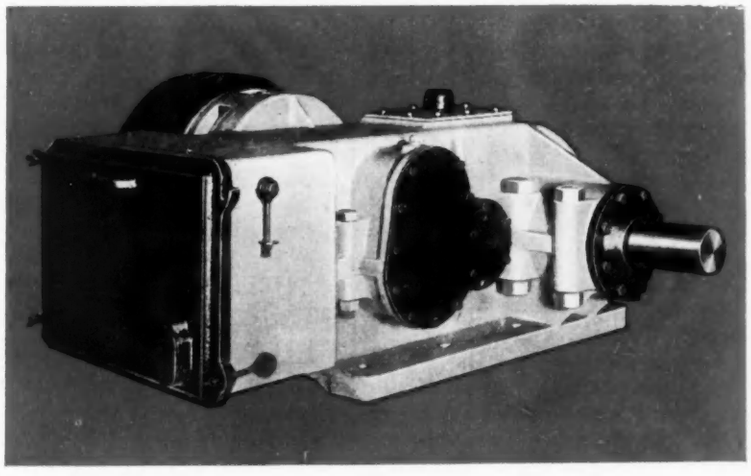
GREATLY reduced oil lifting costs are introduced by this new series of unit pumping powers, the first and only electric pumping equipment having the entire drive—gears, motor and control—combined into one compact, storm-proof case. Advantages in installation, operation and maintenance which make lower pumping costs possible, are listed on the opposite page.

In these new unit pumping powers, Westinghouse-Nuttall and Oil Well Supply Company engineers have embodied the benefits of their broad knowledge of oil field needs gained through long experience in developing, manufacturing and applying oil well pumping equipment.

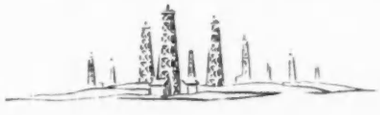
OP-300 unit pumping powers with their new "Oilwell" adjustable rotating counterbalance, all-steel walking beam, Sampson post and base, are built in three sizes up to 40 horsepower capacity. A wide range in pumping speeds and lengths of stroke are provided by each size.

Cheaper to install, operate, and service than any other equipment designed for pumping only, OP-300 unit pumping powers present the greatest opportunity in a decade to lower the costs of producing crude.

Details and prices can be secured from any Oil Well Supply store or Westinghouse sales office.



Looking at crank side of Westinghouse-Nuttall Gear Unit with built-in motor and control. The small compartment on the side of case gives easy access to "change gears".



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It is equally *obvious* that Jones H. M. Rods—with the *highest* ultimate strength—and *highest* resistance to fatigue—fully normalized—must be the *best sucker rods,* without qualification.

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Perforating of Oil Strings

Production Benefitted by Proper Procedure

By GEORGE O. SUMAN
Petroleum Engineer, Associated Oil Company

THE ideal method of bringing in an oil well would be from open hole, that is, without an oil string against the oil formation. By using this plan the oil would be afforded an absolutely unrestricted freedom of movement into the hole thereby permitting the maximum recovery of oil from the area surrounding the well.

Unfortunately in many fields this ideal method cannot be used due to the loose and unconsolidated nature of the oil zone. Unless the oil zone is cased, sand, shale, etc., would drop, cave or heave into the hole, clogging up the hole drilled and shutting off the oil. Formation coming into the hole forms a barrier through which the oil must rise if it is to be produced from the well. Under these conditions the production of the well is less due to only a part of the oil being able to force itself up through this barrier.

In order to remove this troublesome feature it is necessary in many fields to case the oil zone with perforated pipe. On the one hand the perforations should be as small as possible and as few in number as possible, so that no formation can come into the hole and in order that the casing will be weakened the least by the sections cut out. On the other hand the perforations must be large enough and in sufficient number to permit the oil to gain access to the hole with the least difficulty possible. To correctly settle this problem from a practical and engineering basis each field must be considered by itself on the basis of its particular features and for that matter certain parts or zones of a field may require separate study. In judging the perforations to be used, some of the factors to be considered as regards the formation are whether it is hard, compact, or loose with fine to coarse pebbly sands. The grade of oil to be produced, that is, light to heavy also is an important factor.

GEORGE O. SUMAN

IT is not claimed that all sand troubles in wells can be prevented by the use of perforations of the proper size. It has been observed, however, that these troubles have been greatly reduced in some fields by operators when the matter of perforation sizes were given close consideration.

The general tendency has been to have the perforations too large. In very few cases have the operators erred in having the perforations too small. Early practice called for large perforations and it has been a long task for some operators to see the advantage of smaller perforations with consequent lessened sand troubles in most cases and without any loss of oil production.

In the old days it was generally believed that the sand had to be produced in order to get the oil but this belief has been quite generally discarded. Perforations of a size ¾-inch by 1½-inch were used while ½-inch by 1½-inch size was common. Today such large sizes would not even be considered and as for producing the sand, it is generally agreed that it is better to keep the sand in place in the formation and that the oil can be satisfactorily obtained in this way. A great improvement has been made in the matter of perforation sizes best adapted for various conditions but there is still some room for progress along this line.

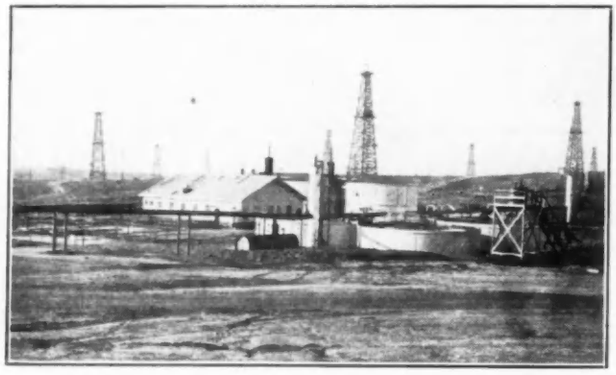
Methods of Perforating

Oil strings run into rotary or cable tool holes where pipe is run after hole is drilled are ordinarily shop or machine perforated previous to running the pipe into the hole by making the perforations by punching, inserting, or cutting or with torch. In the shop the efficiency of the job can be clearly seen. Also it has a decided advantage in that a good job of very small knife-like holes can be obtained if desired. Data as to the weakening of the pipe by vertical or horizontal perforations or by the methods of making these perforations are advanced but results of laboratory tests and other facts concerning these matters are not available. Observations of results and happenings in individual wells although supplying interesting and important information are not conclusive.

In cable tool holes where oil strings are necessarily carried in well as hole is deepened, it is usually impractical to carry the pipe perforated. This necessitates perforating of pipe in hole after landing by using a punching tool. A fairly satisfactory job should be secured if the perforator is properly constructed and a good sharp cutter is used. Care should be taken not to punch the pipe collars as in this way a parted string of pipe might result. The disadvantage to this method is that the completed job cannot be seen. Oil strings subsequently pulled out have sometimes revealed very ragged jobs due to poor workmanship and poor tools. On exposure at the surface such jobs may have no holes at all at many places where holes were supposed to be cut, slight dents only where the cutter was supposed to punch holes, bad bulges in the pipe with only a slight crack or opening due to the cutter pushing out but not being sharp enough to cut a clean hole, or rips in the pipe sometimes several feet long due to improper handling of the tool. In order to get away from poor jobs some operators do not permit all their drillers to perforate but have one or two specially qualified men to do this work. Also perforating

companies are employed to do this work in order to insure getting men with the proper experience as well as the advantage of their particular tool.

Sometimes in cable tool drilling the perforated oil string is carried as the hole is drilled. This can be done only where the formation is somewhat hard or only a short distance is drilled below the shoe of the oil string. It has the advantage of doing away with the necessity of perforating the oil string in the hole.



Richfield Oil Company's cleaning and shipping plant in Kern Front field

Character of Oil Zone

All the factors entering into the most practical method of securing oil production from the oil zone should be carefully weighed before deciding on any perforation program for the oil string. Oil zones vary from field to field and also sometimes in the same field, as well as showing differences in the different zones of the same field. For this reason no one set of perforations can be fixed upon for use in all fields or for that matter sometimes not in the same field if the most satisfactory production methods are followed.

The gravity of the oil will have a bearing on the perforations used. Regardless of other factors, the tendency is to favor somewhat larger perforations for heavy oil than for light oil. Generally speaking this is a good program, inasmuch as heavy and viscous oil will enter the hole more freely through the larger perforations where the small size would tend to restrict the flow. If there is any likelihood of sand coming into the hole in quantities there should be considerable care exercised to restrict the size of the perforations as much as possible and yet permit the oil the greatest freedom of movement possible. In one heavy gravity pumping field, for instance, with oil ranging from 13° to 16° and loose medium to coarse sands it was found that 80 mesh perforations apparently clogged up and prevented the oil from entering the hole to some extent. Proof of this situation was apparently secured when some wells were hydraulicked with warm oil through the perforations with a perforation cleaner after which a much more satisfactory oil production was secured. Another operator obtained the same result by filling the holes to the surface—flooding—with oil. The pressure of this high head of oil permitted the breaking away of the clogged condition and the oil would run away into the sand until the fluid level was reached. On resuming pumping a far more satisfactory production was secured. With the 80 mesh perforations it was found that no sand came into the holes. The operators in later development work used 140 mesh perforations and experienced little sand trouble and no loss of production due to clogged perforations so that this size was apparently the best for this particular field. One operator used 200 mesh perforations but this size proved to be too large as considerable trouble has been had from sand coming into the holes. It has been found that 120 to 140 mesh perforations is just about right in several fields having almost identical problems, such as gravity and character of oil zone.

In light gravity fields the size of the perforations can be determined from the character of the oil zone without regard to the viscosity of the oil, inasmuch as the light oil will enter more freely through the smaller perforations than will the heavy and viscous oil.

The productive part of the oil zone will consist of fine, medium, or coarse grained sands, shaley sands, pebbly sands, fractured shales and so forth. Several of these may be present in the same oil zone so that the size of the perforations must be gauged according to the sand most likely to cause trouble unless, as sometimes happens, they are sufficiently segregated to permit various sizes of perforations to be used in the same oil string.

Whether the oil zone is loose and unconsolidated or hard and compact will also have a considerable bearing on the perforation program. In some fields the oil sands are cemented or so compact that little or no difficulty is experienced when producing by the open hole method, that is without running in an oil string. Oftentimes, however, oil strings are run into such wells in order to guard against any possible trouble. Such fields generally produce oil of the lighter gravity. Oil strings with large perforations in such fields would be satisfactory but it should be kept in mind that the more hole cut out of the oil string the more it is weakened and therefore more easily caused to fail by collapsing, splitting, or parting.

Sometimes open hole production is favored from oil zones which are only fairly hard and compact and which may cause some sand trouble in the producing operations. Usually this is favored due to some definite or possible deepening program mapped out for future development work. In such cases the operator judges the possible risks and unsatisfactory production conditions of open hole to be more than offset by the avoidance of washing over to pull or trying to pull the oil string with possible necessity of sidetracking it in the deepening operations.

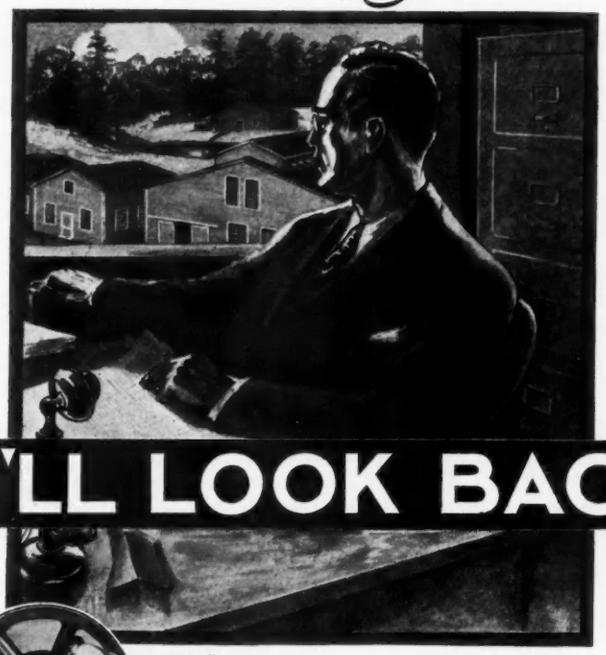
Well in left hand corner in Kern District is estimated to have produced 150,000 *cubic feet or* 26,700 *barrels of sand into this sump*

Flowing Wells

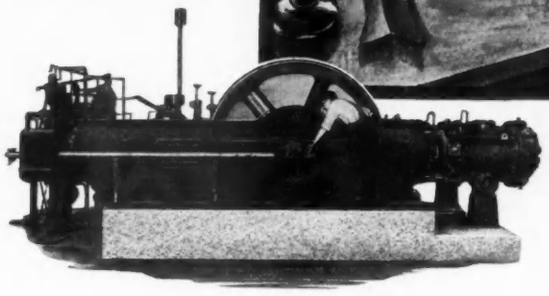
Sand troubles in flowing wells with too large perforations often do not develop as long as a certain back pressure is held on the well. When this back pressure is released the sand often causes trouble in cutting out fittings and in bad cases the hole may become so completely sanded as to shut off the flow of oil or reduce it so materially as to necessitate cleaning out.

Due to the holding of a high back pressure on a flowing

Some Day



YOU'LL LOOK BACK—



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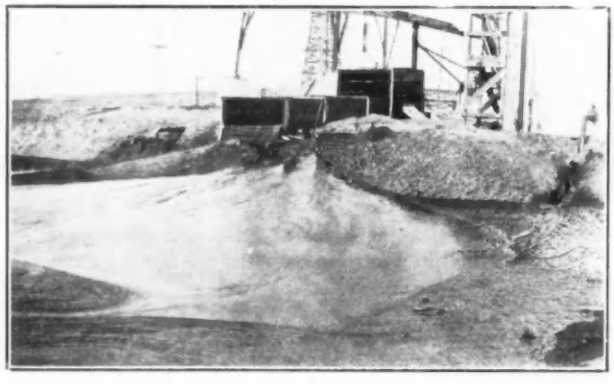
well, sand troubles sometimes do not develop until the pressure falls or the well reaches the pumping stage. Perforations in flowing wells can be much smaller than in pumping wells, due to the gas bringing the oil into the hole satisfactorily through the smaller perforations. For this reason it is the better policy to adopt a perforation program which will be best for the well when a reduced output is reached.

One field in particular comes to mind where the flowing wells gave considerable trouble from sand coming in. When the wells were opened up to obtain a larger production the sand became exceedingly troublesome. A smaller perforation program would have prevented some of this difficulty.

A well recently completed for 5000 barrels per day of 40° gravity oil caused considerable comment on the perforating program. It happened that the oil string with 80 mesh perforations stuck when about halfway through the 1000-foot oil zone. So that the upper 500 feet had perforated pipe against it while the lower part of the hole was open. The gravity of the oil and lack of gas indicated that the prolific production was coming from the bottom of the hole. It was claimed by some persons that the small perforations prevented the oil and gas from the upper part of the oil zone from entering the hole and that a much smaller production from the lower part of the oil zone would have resulted if the oil had to come in through the 80 mesh perforations. However, it happened that the plug in the bottom of the oil string was not drilled out after the pipe stuck so that the oil from the lower part of the oil zone had to come up along the oil string and pass through the 80 mesh perforations in order to flow out of the well. The failure of the upper oil and gas zone to produce is accounted for by the fact that the lower part of the oil zone having a much greater pressure held back the production of the upper zone.

Lowering of Fluid Level

The results of having the perforations too large sometimes does not show up in loose and unconsolidated formation until the flowing period has passed and the pumping



New well pumping sand and oil into sump

stage reached. As the fluid level lowers in the well due to the diminished pressure and oil supply it is found that sand comes into the hole in much larger quantities causing more frequent cleaning out jobs and wearing out of pumps and diminished oil production due to the well being partly sanded up or off production entirely sanded up a greater amount of time. If the hole is somewhat watered the sand in the hole is often washed clean of oil and becomes more packed and compact making it much more difficult to clean out. Also cleaning and gauge tanks, heating units and other surface equipment may become clogged with sand carried along with the oil. Regular cleaning of such equipment at considerable expense is necessary in aggravated cases.

A high head of fluid obviously exerts a corresponding pressure at the bottom of the hole and tends to hold back loose sand which might have a tendency to pour into the

Well in Coalinga field estimated to have produced 100,000 *cubic feet or* 17,800 *barrels of sand into this sump. Some sand hauled off in front of sump*

well due to the large sized perforations. The benefits of this high fluid level are lost as the level lowers in the well, permitting the sand to pour in with the consequences noted above. Slow motion pumping will often overcome this situation somewhat. It ordinarily permits a higher fluid level to be maintained in a well. Pump and cleaning out costs and other expenses are materially reduced and a satisfactory oil production secured. However, the details and advisability of reducing the speed and stroke on pumping wells is a subject in itself and cannot be taken up in detail here.

Dead Hole

Infrequently it happens that holes can be deepened from one to several hundred feet below the most prolific oil sands without danger of running into water sands. Sometimes in completing wells this additional footage is drilled not only to take advantage of a little additional oil sand uncovered but also to have hole below the most prolific oil sands so that in case sand troubles develop a quantity of sand can come into the well and drop down below before reaching up to and above the good oil sands and necessitate cleaning out. There is the risk in any such program that the lower sands opened up may carry water or be thief sands which may take oil coming into the hole from the good oil sand above. In case such prospects are uncertain it would be best to reconsider the perforating program with a view to reducing the size of the perforations and try to prevent sand troubles in this way rather than by drilling the holes to the deeper levels.

A peculiar case involving the above ideas comes to mind of a large operator developing a certain lease. The company decided upon a 300 mesh perforation program notwithstanding the 120 mesh recommendation of its petroleum engineer. From his knowledge of the field the engineer believed that considerable sand trouble would develop with a 300 mesh perforation program. On the other hand the engineer found that his recommendations as to completion depths would be followed. He therefore had the wells finished around 200 feet lower than customary taking in some oil sands which although not very promising might yield a small additional production. One of the main considerations, however, was to drill some hole below the good oil sands into which sand could drop as it came in. The lower 200 feet was shale with the few oil sands somewhat shaly sands so little or no sand troubles could be expected from this source. Considerable trouble developed from

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sand coming into the holes but the production of the wells was maintained at a higher and more satisfactory yield due to the hole that had been drilled ahead to help take care of this difficulty.

Redrilled Wells

Frequently operators in redrilling the oil string and deepening to lower previously untouched oil sands land perforated casing against the old produced zone as well as the new sands opened up when intervening water sands are absent. This procedure should be carefully considered before deciding on such a program. The old sands may have a much lower fluid level than the new sands and take oil from the lower zone thus yielding the operator a much smaller production than might have been obtained. Cases have been noted where in such completions the operator had perforations against only the new sands opened up and a production was obtained far better than that of adjoining operators who had perforations against the entire zone. In redrill and deepening jobs as well as in new wells the possibility of thief sands and necessity of casing them off should be considered. Also when redrilling wells the former productive history of the well should be thoroughly gone over and the advisability of retaining the previous perforation program as to size of changing it considered.

Results With Perforations Too Large

Sand troubles developing from having the perforations too large besides causing heavy maintenance charges as previously noted also lead to numerous other difficulties. Observations on wells has led to the conclusion that in addition to the difficulties incurred after the sand has come into the holes, perhaps more far-reaching and serious results occur outside of the oil string. It appears that oftentimes the sand removed from the oil zone permits shale bodies to be undermined, resulting in the breaking and dropping down of the shale bodies. The collapse of the shale due to the lack of its former support results in crooked, collapsed, and parted oil strings. The wells are often in such poor mechanical condition due to this result as to make it impossible to secure the normal oil production and sometimes the failure is sufficiently complete as to necessitate a redrill of the oil zone and the setting of a new oil string. Operators have experimented by using heavier casing to prevent such failures. This procedure has been of some assistance.

The breaking down of a shale body from this cause near the shoe of the water string sometimes results in causing the water shutoff to fail with a consequent flooding of the oil zone with water. The correction of such a situation is generally an expensive one and the possibility of securing a water shutoff at the former place remote due to shattered and collapsed condition of the shale body at this point. The result is often a new water string set at a lower level in another shale body or infrequently an abandonment. Some operators have adopted a policy of having much smaller perforations in the oil string against the sands for the first 40 or 60 feet below the shoe of the water string when they are doubtful as to the possibility of sand coming in, in order to prevent if possible any such happenings.

Shale breaking and caving down appears in some cases to fall against the perforations or into the oil sand in such a way as to form an effective barrier or dam so that the oil is prevented from gaining access to the hole. Such wells in the past puzzled some operators. The perforations being of generous size and the hole open, it could not be imagined what had happened to the oil production and despite the use of perforation cleaners and other tools the production could not be regained. Redrills of oil strings of such wells are sometimes ineffective due to the new hole being so close to the old one that the dammed status of the oil sand still had to be contended with.

In some cases when wells have given considerable sand trouble the situation has been met by cleaning out the hole and setting an oil string with smaller perforations within the old oil string. Although this procedure will relieve the situation it does not put the well in the best mechanical condition to produce oil. In such a well the oil has two sets of pipe to pass through with the further disadvantage that the perforations in the inner string are not opposite the perforations on the outer string thus causing the oil to pass around between strings before finally finding access to the well. However, the two oil strings may prevent a collapsing or crookedness of the outer and therefore the inner string developing but the placing of such inner liners can hardly be recommended on this account.

Cleaning out of wells which are sanded often leads to damaged oil strings. Cleaning out tools have drilled out through the oil string. Also cleaning out tools rip the casing by catching in a perforation or some other defection. These and other bad features often result when running cleaning out tools in a well.

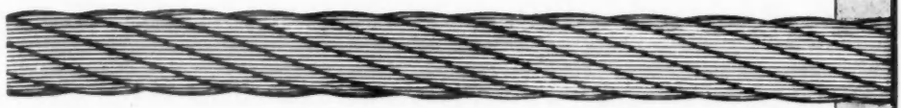
Results With Perforations Too Small

When the perforations are too small the oil production will not be as large as it should be due to the hindrance which the small holes offer to the oil trying to come into the hole. This condition may be further aggravated by the smaller sand particles coming in toward the hole with the oil and lodging in and filling up the voids in the sand around the well thus offering an additional barrier to the oil coming into the well. This latter tendency can be overcome somewhat by the use of perforation cleaners and washers and flooding the oil zone with oil as previously brought out.

In finishing wells in low pressure sands it is sometimes argued that the perforations should be larger than customary in wells of higher pressure. It is claimed that with small perforations the drilling mud would never be cleaned out from behind the oil string, as the pressure would not be sufficient to clean out this condition. A permanent barrier to the oil coming in would be formed. In reality no such deductions should be considered. Such wells have often been observed to come in and maintain a satisfactory yield with small perforations. However, in case of doubt any such possibility can be definitely removed by thoroughly washing out the hole with a washing or perforation cleaning tool before bringing the well in.

If the perforations finally prove to be too small this situation can always be taken care of with a reperforating job. Such jobs should be satisfactory when performed with a good tool by a skilled workman. The danger of striking the casing collars thus possibly causing parted oil strings should be carefully guarded against. For this reason all casing joint records of strings when run should be kept. With a record of the joints and careful measurements during reperforating it should be possible to escape damaging the collars. When conditions are such that the oil string can be easily pulled and run back into the hole it would be better to pull it and reperforate in the shop or replace with an oil string with the size of perforations desired. Ordinarily such a satisfactory situation is not met with.

Perhaps in deciding on the size of perforations it would be well to bear in mind the field saying that, "once you get the string in the hole you can make the perforations larger but you cannot make them smaller." If there is any likelihood of meeting with difficulties due to the perforations being too large, it would appear to be the better policy to use smaller perforations and run a chance on a reperforating job in case the smaller size proved inadequate.



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WORLD PETROLEUM IN REVIEW

Technologists Undertake Standardization of Testing

London.—James Kewley, M. A., F. I. C., new president of the Institution of Petroleum Technologists, of London, said in his presidential address that "Although the industry in general is suffering from the effects of the widespread depression, in its technical phases it shows rapid development and expansion in new directions, . . .

"Petroleum technologists are taking full advantage of the numerous new developments in the technique of the various applied sciences of geology, chemistry, physics, and many branches of engineering."

Mr. Kewley, who is Chief Chemist of Asiatic Petroleum Company, Ltd., referred to his memory of "the days when in Borneo we used to burn our surplus gasoline under stills and boilers," and said that "A new phase, that of the production of chemical products from the hydrocarbons of natural and cracked gases, so long allowed to run to waste, is now coming into the picture."

The president's address indicated that the Institution during his term of office will devote itself largely to the international standardization of testing methods, concerning which subject co-operation has already been arranged between the Institution of Petroleum Technologists, the British Engineering Standards Association, and the American Society for Testing Materials. He referred to the visit to the United States last October of Dr. A. E. Dunstan, retiring president, Dr. F. H. Garner, of Anglo-American Oil Company, and himself, and spoke of the contacts effected at that time as "certainly a milestone on the road to the goal of international standardization."

Enlarge Refinery As Result of Boycott

Mexico City, Mexico.—Announcement has recently been made by Huasteca Petroleum Company that approximately $1,000,000 will be spent for improving and enlarging the refinery at Tampico. This decision has come as a result of the recent boycott on imported Venezuelan gasoline and will make it unnecessary to continue further importations. The enlarging of the refinery in some measure will help to curb the labor crisis in that city by putting many of the men who were formerly with the company, back to work and will also provide additional work for hundreds of other workmen who have been unable to get employment.

Government Subsidizes Shale Oil Production

Rome, Italy. — Provision has been made whereby a company known as A. B. C. D. will be subsidized by the government for the purpose of producing crude oil from shale according to the contents of a convention recently signed between the government and that company. The lack of adequate sources of petroleum in this country has made it necessary to resort to shale oil production in order to supply the demand.

The company owns large deposits of bituminous limestone near Ragusa and Vizzine which are said to contain as high as 12 per cent oil. The conditions of the convention call for the erection of a plant by the company, at its own expense, large enough to produce 350,000 barrels of oil annually and to have the plant operating at that capacity within three years. The government grants a subsidy of approximately $1.00 per barrel for crude of a specified grade.

Soviet Refinery Summary

Moscow, U. S. S. R.—Statistical bulletins recently issued by the Supreme Economic Council of the Soviet Republic state that there are now 32 refineries in the Transcaucasian region which are capable of refining approximately 105,000,000 barrels of crude annually. Other advices are to the effect that the refinery throughput will amount to over 300,000,000 barrels for 1933, the last year of the five-year plan. This amount represents an increase of practically 200 per cent over the present throughput.

Annual Gasoline Consumption Increased

London, England. — Consumption of gasoline in this country shows an increase of 12 per cent for the year 1930, with an estimated eight to 10 per cent increase for 1931. This increase compares most favorably with the United States which showed an increase of only five per cent for the year. The increased consumption in Europe and Great Britain is accounted for by the fact that more automobiles and airplanes are being used, particularly in Western Europe, whereas the United States has more nearly reached the saturation point in its use of combustion engines.

Alcohol Motor Fuel Production

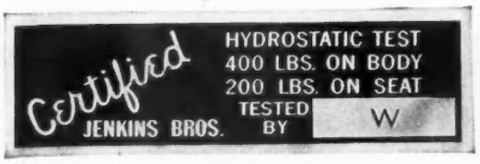
Rio de Janeiro, Brazil.—Lack of commercial production of petroleum in this country has had considerable influence upon the efforts of manufacturers to find a satisfactory substitute for motor fuel. The low price of sugar has lent impetus to the movement to produce alcohol from sugar.

At present there are three types of alcohol motor fuel on the market in this country. The first type is crude sugar-mill alcohol which is used in trucks and track cars on the plantations. This type is cheap and readily available. Ingredients to counteract the properties which render the crude product unsuitable for automobile engines is added before the product is placed on sale to the public.

The second type of motor fuel is said to be mixture of alcohol, ether and kerosene. This product has been on the market for over three years. The third type is manufactured under the trade name of "Azulina" and consists of alcohol mixed with ether and a trace of methylene blue. This fuel was placed on the market in April, 1930.

Motor fuel authorities estimate that it will take a ratio of three to two to give the same amount of mileage that is procured from gasoline. The current price of gasoline is equivalent to 38 cents while the price of alcohol is 23 cents, making the net saving in the cost of fuel equal to 10 per cent for the same mileage obtained. Estimates of the plant capacity for 1931 have been placed at 31,450 barrels or the approximate equivalent of 21,000 barrels of gasoline.

Thorough experiments testing the carbon deposit, flash-point and corrosive properties of alcohol as compared with gasoline to determine the possible injurious character of the fuel to motors have not been made so it is impossible to state that use of the fuel will ultimately be a saving. This experiment will have to be made by the individual. The government is encouraging the use of the fuel and development of the industry from a patriotic standpoint, many of the official cars being required to use the alcohol motor fuel. Tax reductions have been granted in Pernambuco and Alagoas and in the latter state traffic fines have been reduced by half if the car is found to be using alcohol as fuel.



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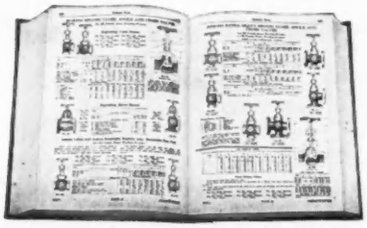

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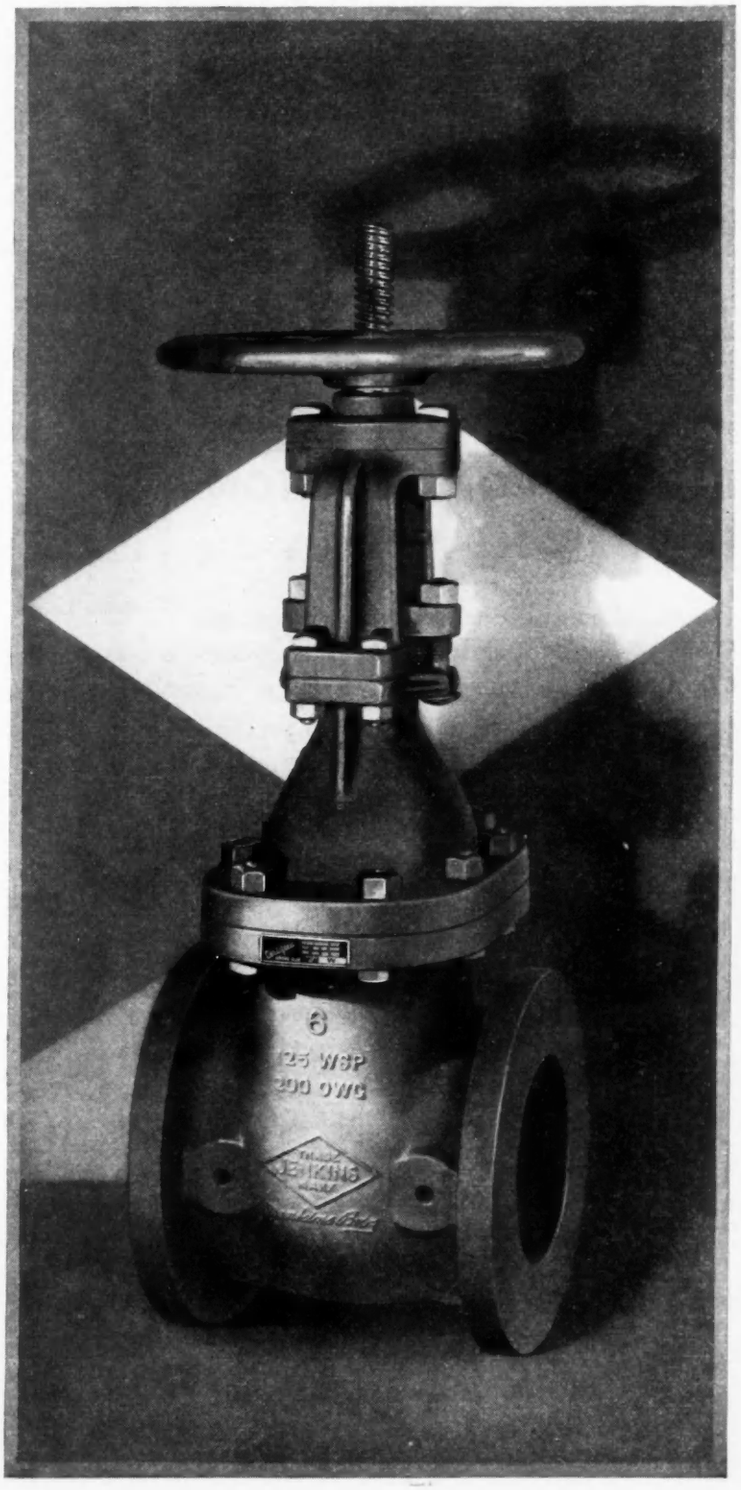

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Eastern Oil Fields:
NEW MARTINSVILLE SUPPLY CO.
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LLOYD SMITH CO.
Bradford, Pa.
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Knox, Pa.
MITCHELL & GRAHAM
Emlenton, Pa.
MASSETH, PACKER & MACHINE CO.
Butler, Pa.
LAWRENCEVILLE MACHINE CO.
Lawrenceville, Ill.

Mid-Continent Oil Fields:
ATLAS SUPPLY CO.
Tulsa and Muskogee, Okla.
FARLEY MACHINE WORKS CO.
Arkansas City, Kans.
NORVELL-WILDER SUPPLY CO.
Beaumont and Houston, Texas
PELICAN WELL TOOL & SUPPLY CO.
Shreveport, La.

Rocky Mountain Oil Fields:
COLONY CORPORATION
Rock Springs, Wyoming

California Oil Fields:
AMERICAN CABLE COMPANY, *Inc.*
San Francisco, Calif.
W. B. CORNISH
3924 Baker Ave., Bell, Calif.
ALCO OIL TOOL COMPANY
Compton, Calif.

AMERICAN CABLE COMPANY
WIRE LINES
TRU-LAY *Preformed* and CRESCENT *Standard*

Markets • Production • Crude Prices

H. J. STRUTH, ***Staff Economist, Houston, Texas***

East Texas Boosts Production Above Economic Limits

Another 50,000-barrel daily increase in East Texas last week resulted in forcing the national production curve through the economic limit of 2,328,000 barrels daily to a total of 2,422,000 barrels. Production figures received from the American Petroleum Institute for the week ending April 18 showed that there was an increase in daily average crude production in the United States of 113,750 barrels. All producing districts with the exception of Arkansas and California reported increases last week. Oklahoma reported a net gain of 71,400 barrels while Texas, outside of the Gulf Coast, recorded an increase of 35,450 barrels.

Analysis of production statistics for last week shows that East Texas registered a gain of 53,400 barrels, of which the Kilgore district reported 43,550 barrels. New production obtained in the East Texas area last week indicated a daily potential of more than 400,000 barrels, based upon estimates. Actual daily production of this area last week amounted to 248,400 barrels, as compared with 195,000 barrels in the preceding week. Total daily production of Texas is now up to 877,400 barrels, or 185,400 barrels in excess of the allowable set by the railroad commission. On the basis of indicated demand and allowing for reasonable withdrawals from storage, however, Texas is now producing 63,019 barrels in excess of the indicated economic limit. Despite the allowable fixed by the railroad commission, Texas could produce 814,381 barrels daily and still effect a substantial reduction in stocks.

Production of the Greater Seminole area in Oklahoma was up to 155,000 barrels daily last week, compared with about 112,000 barrels during the week ending April 11. On the other hand, Oklahoma City's production amounted to 152,690 barrels daily or about 11,000 barrels less than in the preceding week. Reports from Oklahoma state that taking of proration gauges in the Seminole area have been completed but these fields continue to be produced above their allowables. Succeeding production figures are expected to show a return to normal in the Seminole area. Oklahoma City is in the midst of taking proration gauges and production there is from 30,000 to 40,000 barrels in excess of allowable output. State production was about 120,000 barrels above allowable last week, although cumulative results, since January 1, show that the excess has actually amounted to 30,000 barrels a day during that period.

The situation in California continues unfavorable, with market values of crude and gasoline severely depressed. Further discussion of possible revision in allowable production for California has resulted in the suggestion that the state allowable be reduced to as low as 368,000 barrels daily. It is believed, however, that efforts will be made to lower the allowable to from 400,000 to 460,000 barrels daily. It is understood that major purchasing companies are limiting their takings of crude to a minimum and are making strenuous effort to bring about a substantial reduction in stored supplies. Statistics of production and stocks for California, compiled by the American Petroleum Institute for March, show that stocks of light oil were increased to the extent of 367,146 barrels, while heavy crude in storage showed a decline of 815,150 barrels. Stocks of all oils in California declined in March to the extent of 1,328,316 barrels. The total stock decrease in California since January 1 has amounted to 3,421,619 barrels. Total stocks of crude in California, as of March 31, amounted to 148,726,046 barrels, against 157,933,822 barrels on the same date last year, a decline of 9,207,776 barrels. Last week's production in California represented an excess over allowable of 26,900 barrels daily, whereas the cumulative excess, since January 1, amounts to 29,936 barrels daily.

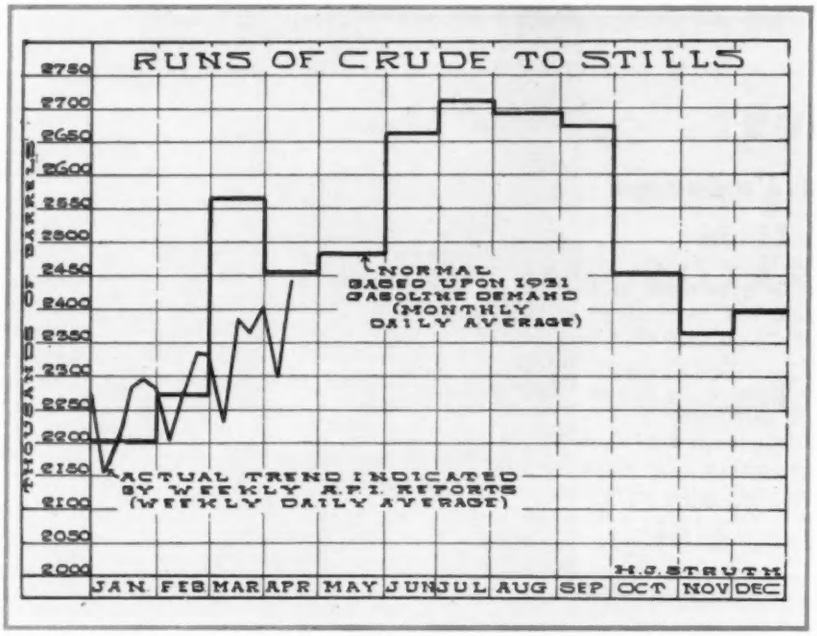
In view of the facts presented elsewhere in this issue, showing that prospective demand justifies a daily average production limit of somewhat more than 2,400,000 barrels, it is apparent that last week's indicated daily average production is not severely excessive for the United States as a whole. However, it is seen that the situation in East Texas has been responsible for the rising trend of production and therefore alters the picture considerably. Thus, while present total daily production of the country is only slightly above the indicated normal, the fact remains that other producing areas outside of East Texas have not had an opportunity to share in the otherwise justified upward trend. Since East Texas operators are willing to accept proration on the basis of a limit of 130,000 barrels daily, it is quite possible that some equitable arrangement will be worked out in the near future that will adjust the present unsatisfactory situation for other sections of the United States. At any rate, if production in East Texas is cut back to the extent of, say, 100,000 barrels daily, that quantity of oil could readily be absorbed from other districts and prove of material benefit in the general economic situation.

Refinery Runs Reflect Improved Gasoline Demand

Crude runs to stills for the week ending April 18 aggregated 17,039,000 barrels, a daily average of 2,434,000 barrels, according to returns made to the American Petroleum Institute. On a Bureau of Mines basis, this indicates a daily average for all refineries in the United States of 2,507,000 barrels. The accompanying chart shows the trend of actual runs in relation to prescribed normal. By projecting the latest data on the chart the curve of actual runs breaks through the normal line to a point about 52,000 barrels above the prescribed limit. It will be noted, however, that runs for the first two weeks of this month were somewhat below the limit prescribed, indicating that last week's upward movement cannot be considered excessive. As a matter of fact, the average daily quantity of crude runs since January 1 has amounted to 2,313,000 barrels, whereas the prescribed limit for that period was placed at 2,375,000 barrels.

Stocks of gasoline as of April 18 amounted to 46,384,000 barrels, a decline under the preceding week of 373,000 bar-

MARKET SECTION



rels. In view of the rather sharp increase in still runs last week, accompanied by a substantial decline in gasoline stocks, it is apparent that the refining industry experienced an accelerated rate of gasoline consumption during that period. With an outlook for a continued increase in domestic gasoline consumption, it is believed that runs to stills will be increased further, while stocks of gasoline will undoubtedly be drawn upon substantially from now on. If refiners manage to hold runs at present levels throughout April and endeavor to increase them but slightly in May, it is obvious that June, July and August will justify increased runs, to the extent indicated on the accompanying chart.

Propose Lower Allowable Production In California

A reduction of the state allowable is contemplated by committees now working on a new schedule. At the very best, the new allowable is expected to be 460,000 barrels, while a minimum of 368,000 barrels is possible if intercoastal shipments decrease sharply. A new allowable of 398,000 barrels is also being considered. The allowable of 500,000 was considered drastic for a time, but a much lower output is possible under the proposed setup.

Under the old plan of purchases, it would be impossible

Crude Runs to Stills, Gasoline Stocks and Gas and Fuel Oil Stocks

Week Ending April 11, 1931

(Figures in barrels of 42 gallons)

District—	Potential Capacity (Daily) Total	Reporting	Per Cent	Crude Runs to Stills Total	Daily Average	Per Cent Operated	Gasoline Stocks (see note below)	Gas & Fuel Oil Stocks
East Coast	612,700	612,700	100.0	2,961,000	423,000	69.0	9,175,000	7,706,000
Appalachian	141,300	132,500	93.8	611,000	87,300	65.9	1,897,000	1,184,000
Indiana, Illinois, Kentucky	390,800	381,000	97.5	2,096,000	299,400	78.6	6,067,000	3,173,000
Oklahoma, Kansas, Missouri	461,100	412,200	89.4	1,872,000	267,400	64.9	3,533,000	3,748,000
Texas	809,000	743,500	91.9	4,199,000	599,900	80.7	8,101,000	8,840,000
Louisiana-Arkansas	266,600	262,000	98.3	1,000,000	142,900	54.5	1,957,000	2,343,000
Rocky Mountain	150,100	139,700	93.1	397,000	56,700	40.6	1,923,000	832,000
California	898,500	887,600	98.8	3,462,000	494,600	55.7	*14,104,000	99,012,000
Total week April 11	3,730,100	3,571,200	95.7	16,598,000	2,371,200	66.4	46,757,000	126,838,000
Total week April 4	3,730,100	3,571,200	95.7	15,623,000	2,231,900	62.5	46,076,000	126,433,000
Total April 12, 1931	3,678,900	3,510,400	95.4	17,791,000	2,541,500	72.4	**54,156,000	**135,672,000
The Texas and Louisiana Gulf Coastal Figures Shown Below are Included Above in the totals of their respective districts.								
Louisiana Gulf Coast	147,500	147,500	100.0	3,188,000	455,400	86.0	6,933,000	6,509,000
Texas Gulf Coast	529,500	529,500	100.0	613,000	87,600	59.4	1,782,000	1,325,000

NOTE: In all the refinery districts indicated except California, figures in this column represent gasoline stocks at refineries. In *California, they represent the total inventory of finished gasoline and engine distillate held by reporting companies wherever located within continental United States—(stocks at refineries, water terminals and all sales distributing stations, including products in transit thereto).

**Revised due to change in California.

MARKET SECTION

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH NECESSARY AND NORMAL QUOTA LIMIT

State—	Indicated Demand Second Quarter 1931	Economic Limit Second Quarter 1931	Daily Average Last Week	Daily Excess Last Week	Daily Average Since January 1	Daily Excess Since January 1
Arkansas	58,600	56,000	46,950	—9,050	49,001	—6,999
California	691,500	500,000*	526,900	26,900	529,936	29,936
Kansas	118,300	114,000	110,050	—3,950	110,202	—3,798
Louisiana	78,900	71,000	66,500	—4,500	68,421	—2,579
Oklahoma	551,000	465,000*	585,100	120,100	495,152	30,152
Texas	798,700	692,000*	877,400	185,400	721,410	29,410
Balance of U. S.	254,000	240,000	209,100	—30,900	206,969	—33,031
Total	2,451,000	2,138,000	2,422,000	284,000	2,181,091	43,091

*Allowable.

to reduce the output by a wide margin, but it will be largely through limiting of purchases that the objectives will be reached. The major purchasing companies are considering a plan whereby they will purchase only as much oil as they can use economically. The old system of taking all oil has been instrumental in bringing the state to its present condition. Many of the smaller producers realize the situation and have agreed to limit production to any economic level.

The decline in intercoastal (Panama Canal and Atlantic Seaboard) shipments will be watched. East Texas is expected to be a major factor in this decline.

California stocks were reduced during the past month, but light oil showed a slight increase. Heavy oil is in better demand and fuel oil is bringing a good price, due to the influence of a high price schedule for heavy crude.

California does not have a serious threat on the horizon at this time. Kettleman Hills will be a big factor in state production, but this field will be held at least partially in check by present nature of operations.

In at least one field, operators are reducing the gravity of the oil to increase its value. This is being done by exposure and other methods. One refiner is removing the

Cracked Gasoline Production

Week Ending April 11, 1931

(Barrels of 42 gallons)

District	Potential Charging Capacity Total	Reporting	Per Cent	Production Total	Daily Average
East Coast	246,900	222,900	90.3	626,000	89,400
Appalachian	45,900	43,400	94.6	132,000	18,900
Ind., Ill., Ky.	294,200	280,200	95.2	579,000	82,700
Okla., Kans., Mo.	219,900	197,900	90.0	350,000	50,000
Texas	395,500	379,400	95.9	884,000	126,300
Louisiana-Arkansas	109,400	106,900	97.7	207,000	29,600
Rocky Mountain	95,100	95,100	100.0	104,000	14,900
California	182,700	182,700	100.0	297,000	42,400
Total wk. Apr. 11	1,589,600	1,508,500	94.9	3,179,000	454,200
Total wk. Apr. 4	1,589,600	1,508,500	94.9	2,964,000	423,400
Total April 12, 1930			Not Available		
The Texas and Louisiana Gulf Coastal Figures Shown Below are included above in the totals of their respective districts.					
Texas Gulf Coast	305,000	300,500	98.5	736,000	105,100
Louisiana Gulf C.	77,000	77,000	100.0	151,000	21,600

Imports of Petroleum

(Barrels of 42 gallons)

	Week Ended April 11	Week Ended April 4
AT ATLANTIC COAST PORTS—		
Baltimore	245,000	193,000
Boston	131,000	220,000
New York	541,000	1,189,000
Philadelphia	243,000	205,000
Others	140,000	"A" 287,000
Total	1,300,000	2,094,000
Daily Average	185,714	299,143
AT GULF COAST PORTS—		
Galveston District	.....	65,000
New Orleans and Baton Rouge	.....	"A" 130,000
Port Arthur and Sabine District	.....	.....
Tampa	.....	.....
Total	.....	195,000
Daily Average	.....	27,857
AT ALL UNITED STATES PORTS—		
Total	1,300,000	2,289,000
Daily Average	185,714	327,000
Daily Average Four Weeks Ended	247,607	258,107
Distribution of Total Imports Is As Follows:		
Crude	712,000	"A" 1,274,000
Gasoline	341,000	"A" 345,000
Gas Oil	.....	111,000
Fuel Oil	247,000	"A" 559,000
Total	1,300,000	2,289,000

"A"—Revised.

California Oil Receipts

(Barrels of 42 gallons)

	Week Ended April 11	Week Ended April 4
AT ATLANTIC COAST PORTS—		
Baltimore	.....	.....
Boston	.....	.....
New York	.....	225,000
Philadelphia	192,000	189,000
Others	.....	73,000
Total	192,000	487,000
Daily Average	27,429	69,571
AT GULF COAST PORTS—		
Total	.....	.....
Daily Average	.....	.....
AT ATLANTIC AND GULF COAST PORTS—		
Total	192,000	487,000
Daily Average	27,429	69,571
Daily Average Four Weeks Ended	50,929	62,214
Distribution of Total California Oil Receipts Is As Follows:		
Gasoline	192,000	487,000

MARKET SECTION

United States Daily Average Production

1930	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
March	622,650	115,500	644,400	206,000	41,600	58,600	132,700	73,600	649,000	2,544,050	78,865,400
April	657,050	122,200	640,950	206,800	42,100	57,800	138,700	75,950	625,700	2,576,250	77,018,100
May	663,300	131,000	662,350	203,900	39,900	53,800	137,150	82,500	623,700	2,597,700	80,529,600
June	665,550	133,600	668,300	210,500	40,300	56,900	135,750	84,600	598,000	2,593,500	77,806,900
July	594,750	121,600	652,350	209,400	40,550	55,400	137,200	98,350	610,450	2,520,050	78,121,200
August	558,850	115,650	646,400	206,600	41,500	55,100	128,550	106,000	611,250	2,470,900	76,597,600
September	558,900	116,550	606,550	200,750	40,150	53,550	121,400	110,650	604,900	2,413,400	72,402,205
October	542,100	114,850	609,500	194,850	41,500	52,800	121,750	104,000	590,800	2,372,150	73,536,350
November	491,550	111,400	579,350	190,100	44,050	52,000	116,400	101,950	601,200	2,288,000	68,639,150
December	459,300	105,550	533,400	189,300	43,000	51,100	112,200	100,500	587,450	2,181,800	67,636,500
1931											
January	452,000	106,350	511,050	188,850	41,100	50,700	110,300	96,700	535,700	2,092,750	64,874,450
February	473,750	114,450	523,700	185,600	43,950	49,950	109,800	100,100	527,300	2,128,600	59,600,450
March	531,900	110,550	585,000	177,950	40,250	47,550	108,800	95,400	528,100	2,225,500	68,990,850
April 4	511,550	108,950	632,800	180,450	39,250	47,200	109,500	97,300	525,100	2,252,100	15,764,700
April 11	513,700	109,500	683,750	181,300	38,750	47,150	111,500	93,700	528,900	2,308,250	16,157,750
April 18	585,100	110,050	719,200	185,650	39,050	46,950	113,600	95,500	526,900	2,422,000	16,954,000
Increase	71,400	550	35,450	4,350	300	.....	2,100	1,800	.....	113,750	796,250
Decrease	.....	.....	.....	.....	.....	200	.....	.....	2,000	.....	.....

Last Week's Daily Average Production by Districts

TEXAS	April 18	April 11
East Texas	248,400	195,000
Panhandle District	55,300	50,650
North Texas	57,350	57,150
West Central Texas	25,050	25,050
East Central Texas	51,650	51,700
West Texas	218,200	241,950
Southwest Texas	63,250	62,250
Texas Gulf Coast	158,200	154,300
Total Texas	877,400	838,050
OKLAHOMA	585,100	513,700
CALIFORNIA	526,900	528,900
KANSAS	110,050	109,500

LOUISIANA	April 18	April 11
North Louisiana	39,050	38,750
Louisiana Gulf Coast	27,450	27,000
Total Louisiana	66,500	65,750
ARKANSAS	46,950	47,150
MOUNTAIN STATES		
Wyoming	43,650	42,300
Montana	8,650	8,800
Colorado	4,200	4,250
New Mexico	39,000	38,350
Total Mountain States	95,500	93,700
EASTERN STATES	113,600	111,500
Total United States	2,422,000	2,308,250

Summarized Review of Field Results

State—	Completions This week	Completions Last week	Oil Wells This week	Oil Wells Last week	Gas Wells This week	Gas Wells Last week	Failures This week	Failures Last week	Initial Prod. This week	Initial Prod. Last week
Arkansas	..	3	..	3	..	..	..	..	.....	304
California	4	6	4	6	..	..	..	..	3,250	2,490
Indiana	6	1	3	..	..	..	3	1	65	.....
Kansas	8	6	3	4	3	..	2	2	3,050	1,245
Kentucky	2	48	1	23	1	7	..	18	25	3,165
Louisiana	5	10	1	..	..	4	4	6	300	.....
Mississippi	1	2	..	..	..	1	1	1	.....	.....
Ohio	22	17	6	5	11	7	5	5	35	44
Oklahoma	27	26	11	13	6	4	10	9	93,185	26,360
Pennsylvania	27	3	11	1	7	2	9	..	34	1
Texas	106	104	70	68	6	3	30	33	468,745	396,015
West Virginia	18	13	..	2	17	7	1	4	.....	4
New York	4	..	1	..	3	..	..	..	3	.....
Missouri	..	1	..	..	..	..	..	1	.....	.....
Total	230	240	111	125	54	35	65	80	568,692	429,628
Increase this week	..	..	..	..	19	..	..	..	139,064	.....
Decrease this week	10	..	14	..	..	..	15	..	.....	.....

Comparison of Permits Granted for New Wells

State—	Week Ending April 18	Previous week	This week 1930	Total this month	This month 1930	Total this year	Total this date last year	1930 year total
Arkansas	1	..	1	1	5	17	34	108
California	4	11	11	21	40	120	224	922
Louisiana	4	..	12	10	59	106	322	948
Kansas	14	3	23	23	71	151	299	944
Oklahoma	20	23	77	64	241	365	924	2,830
Texas	109	146	165	379	428	1,539	2,388	7,052
Total	152	183	289	498	844	2,298	4,191	12,804

MARKET SECTION

gasoline from light crude and selling the remainder as fuel oil, the total revenue considerably exceeding that which would be derived from the sale of crude in its original state.

The gasoline market is weak. The average retail price for the Los Angeles district is 9½ cents. Standard Oil Company and Shell Oil Company has advised stations handling their products to "meet competition," meaning that gasoline may be sold at any price.

Oklahoma City Output Raised To 165,000 Barrels Daily

Daily output of the Oklahoma City field was set at 165,000 barrels for the remainder of April and all of May by the Oklahoma Corporation Commission, April 20. This output will be made up through a percentage of estimated potential of wells and the privilege of making up production of wells under-produced in the past. For the remainder of April, production will be on the basis of seven per cent of estimated potential of 2,240,640 barrels. The remainder will come by allowing under-produced wells to make up losses.

In May the output will be a combination of six per cent of estimated potential of 2,549,489 barrels, with further allowance for making up on under-produced wells. The potential for the field was set at above 7,000,000 barrels daily by Otto Bradford, field umpire, who had taken potential output of 500 of the wells of the field at the time he gave his testimony. Until the present order was written, output of the field had been set at 125,000 barrels daily.

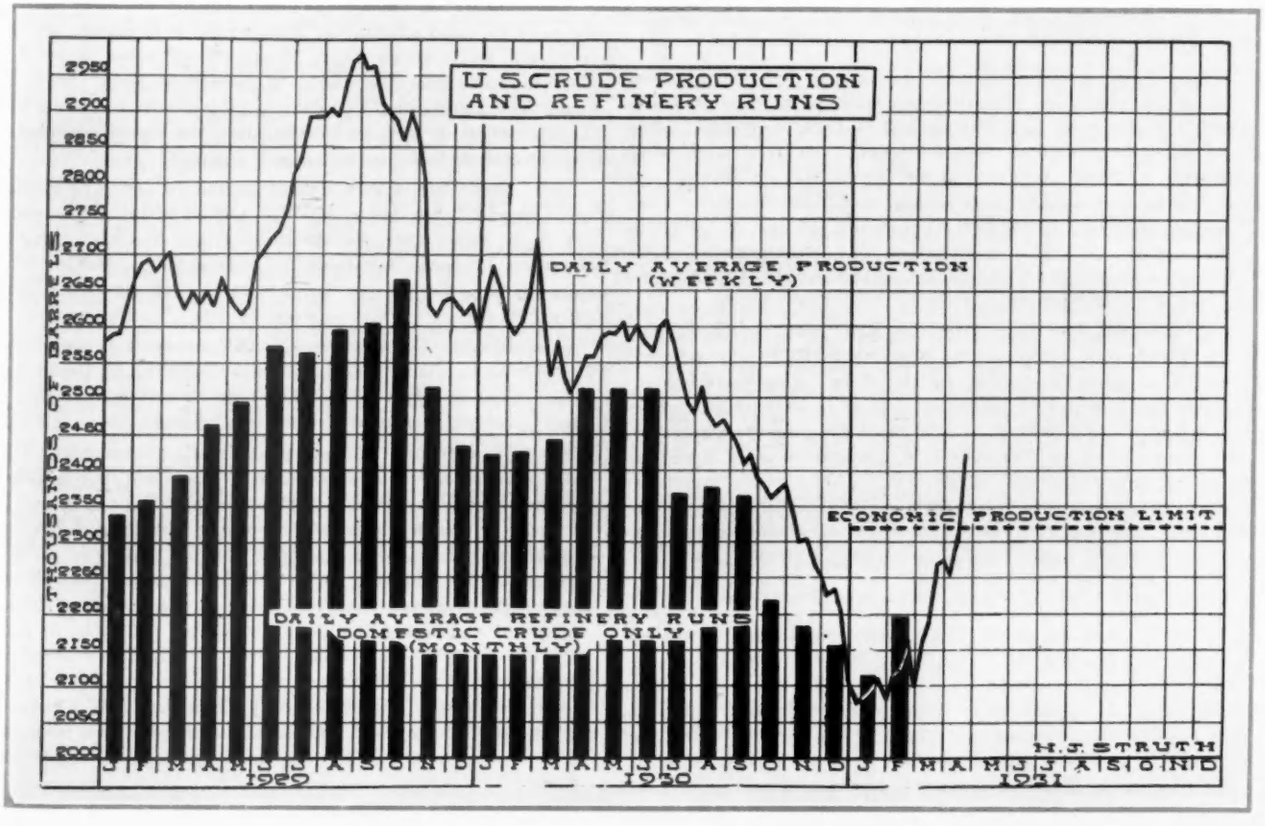
The effort to determine market demand for Oklahoma oil came before the corporation commission on petitions by Otto Bradford, umpire for the Oklahoma City field, and Ray M. Collins, umpire for the proration program for the whole state. The Collins petition asked that proration be lifted on wells making less than 20 barrels per day. The old order restricted the output of all wells, except those making 10 or fewer barrels per day.

R. S. Ellison, president of Stanolind Crude Oil Purchasing Company, said the requirements for his company in March from Oklahoma had been 1,131,920 barrels and that April demand would likely be 1,157,130 barrels. He estimated the demand for May at 1,198,700 barrels.

H. F. Wilcox Oil & Gas Company will take from 15,000 to 20,000 barrels per day from Oklahoma City, instead of 1000 barrels, the present average. R. S. B. Clay, attorney for the company, said the company would be compelled to buy oil "at its own price."

The amount of oil for Sinclair Refining Company for May was set at 41,000 barrels per day by E. B. Marlow.

Demands of Continental Oil Company for May were set at 13,000 barrels per day by E. H. Skinner, manager of the pipe line department. He said the company took an average of 8900 barrels from Oklahoma City in March, while de-



MARKET SECTION

liveries for April thus far had been at the rate of 11,000 barrels per day.

Shell Petroleum Corporation's requirements for May from Oklahoma City will be in the neighborhood of 12,000 barrels per day. H. A. Alford of this company said Shell had been taking 6000 barrels per day in April, against an average of 4728 for March.

Purchases of Carter Oil Company out of Oklahoma City for all of March and the first 10 days of April were 16,000 barrels daily. This amount may be increased slightly for May.

The May estimate for Indian Territory Illuminating Oil Company was set at 8000 barrels daily. Throughout March this company took 3020 barrels daily average from Oklahoma City.

Empire Oil & Refining Company expects to take 35,000 barrels daily from Oklahoma City in May. During March the average purchases of this concern were 22,000 barrels daily.

In the older fields of Oklahoma the matter of gaining connections for stripper wells has been successful to a large extent. Last week an exchange of oil resulted in Prairie Oil & Gas Company connecting to 880 barrels of Washington County production. Gypsy Oil Company and The Texas Company agreed to take an equal amount of Prairie Oil & Gas Company production in the Glenn Pool area. Stanolind Pipe Line Company will be connected to all wells to which it had agreed to furnish relief by May 1.

In Kansas the period during which Standard Oil Company (Indiana) took 6000 barrels daily from the southeastern area expired April 15. Governor Harry Woodring announced that other companies had agreed to join the Indiana company in furnishing permanent outlet for this oil.

New York, N. Y.—Sinclair Consolidated Oil Corporation reports for the year 1930 gross operating earnings of $183,921,151, compared with $196,805,604 in 1929. Net profit after all charges amounted to $12,026,424, compared with $16,509,037 in 1929. Adjustment of inventories to market resulted in a charge-off amounting to $2,579,883 while a reserve charge of $7,607,695 represented decline in value of investments in other companies. The net income before these extraordinary charges amounted to $22,214,002, compared with $16,509,037 in 1929.

Sale of Sinclair Pipe Line Company and Sinclair Crude Oil Purchasing Company, in September, 1930, was reflected in the earnings statement by the item "Non-operating income (net) including profit on sale of investments in other companies"—$28,887,003. Cash surplus as of December 31, 1930, is shown as $40,363,852.36, compared with a surplus on December 31, 1929, of $41,008,322.74. Current assets at the end of last year exceeded current liabilities by $65,259,105, while at the end of 1929 the excess of current assets amounted to $47,569,322, reflecting a strong position.

Philadelphia.—Unusually depressed conditions in the oil industry are reflected by the first quarter earnings report of Atlantic Refining Company which shows a net loss for that period of $2,162,800, after interest, depreciation, depletion, intangible development costs, etc. This compares with a net profit in the first quarter of last year of $1,124,300, equal to 42 cents a share on 2,685,884 shares of stock.

Offer for Osage Crude Ups Price 43c Barrel

Osage, Wyo.—Arro Oil & Refining Company of Lewistown, Montana, has posted a field price of 98 cents per barrel for Osage field crude oil; this is a boost of 43 cents over the price posted by Midwest Refining Company. The former agrees to take any or all oil in the field offered to it at this price.

Arro Oil & Refining Company has recently completed a new Dubbs cracking unit at its plant in Lewistown, and is now equipped to handle 2500 barrels of crude per day. It has contracted recently for the entire output of the refinery for the remainder of this year. Osage crude oil is of a very high gravity, splendid for refining.

Humble Posts New Oil Prices and Lowers Pipe Line Tariffs

(*Continued from page 21*)

saying that Humble Oil & Refining Company will purchase oil in the district ratably in accordance with allowable production percentages established by the railroad commission and its agents, who are now launching a proration program in the area. Assuming that orderly development will be practiced, he said, the company is proceeding to install gathering facilities to enable making of connections to properties of customers and to start making purchases as soon as the commission's order is actually effective.

Stanolind Crude Oil Purchasing Company promptly adopted the reduced price schedule of Humble Oil & Refining Company in North and Central West Texas, effective the same date. This indicates that the cuts will become general. Stanolind Crude Oil Purchasing Company does not post prices in East Texas, or other sections of the state that were included in Humble Oil & Refining Company's changes.

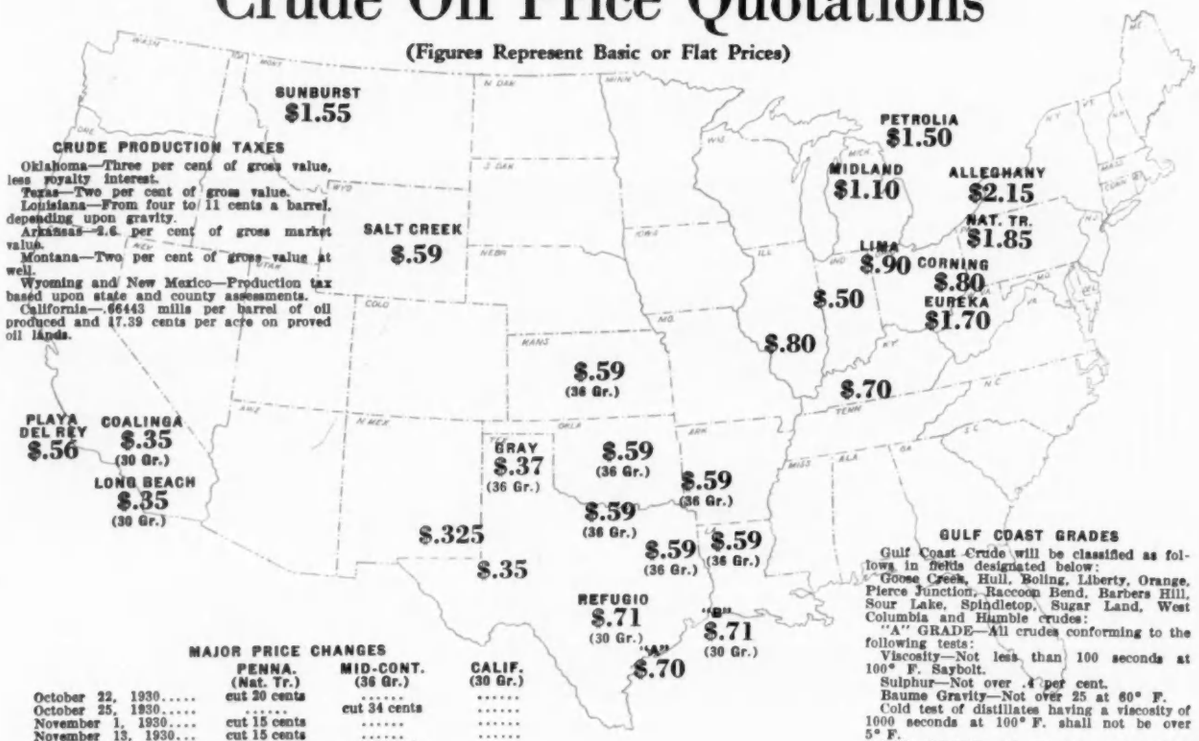
Since Shell Petroleum Corporation and Atlantic Oil Producing Company each quote Humble Oil & Refining Company's prices on their respective division orders, both automatically adopt the new price schedules in Texas and New Mexico fields, thus placing four major purchasers in line on the reduced prices.

General offices of the Magnolia Petroleum Company, Gulf Production Company and The Texas Company in Texas were closed April 21, (San Jacinto Day), so no action was taken by these concerns in regard to the price changes.

As long as crude remains plentiful the independent plant owners at interior refining centers in Texas are to continue to pay less than the postings of major companies, and a number of the North Texas group were paying less than the revised schedule at the time of the latest price cut. American Refining Properties, Inc., adopted a new schedule April 17 that allowed a top price of 51 cents per barrel for 39 gravity oil and above. Olney Oil & Refining Company has started operating its four-inch line from its Olney plant to the New Castle field, and is purchasing about 2100 barrels daily at 50 cents per barrel at the well from leases of King Royalty Company et al, Petroleum Producers Company and Graham & Larimore. This price may be revised as result of the change in postings of major companies.

Crude Oil Price Quotations

(Figures Represent Basic or Flat Prices)



CRUDE PRODUCTION TAXES

Oklahoma—Three per cent of gross value, less royalty interest.
Texas—Two per cent of gross value.
Louisiana—From four to 11 cents a barrel, depending upon gravity.
Arkansas—2.6 per cent of gross market value.
Montana—Two per cent of gross value at well.
Wyoming and New Mexico—Production tax based upon state and county assessments.
California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

MAJOR PRICE CHANGES

	PENNA. (Nat. Tr.)	MID-CONT. (36 Gr.)	CALIF. (30 Gr.)
October 22, 1930.....	cut 20 cents	.....	.....
October 25, 1930.....	.....	cut 34 cents	.....
November 1, 1930....	cut 15 cents	.....	.....
November 13, 1930...	cut 15 cents	.....	.....
March 5, 1931.....	.....	cut 36 cents	.....
March 30, 1931.....	.....	.....	cut to 35 cents

GULF COAST GRADES

Gulf Coast Crude will be classified as follows in fields designated below:
Goose Creek, Hull, Boling, Liberty, Orange, Pierce Junction, Raccoon Bend, Barbers Hill, Sour Lake, Spindletop, Sugar Land, West Columbia and Humble crudes:
"A" GRADE—All crudes conforming to the following tests:
Viscosity—Not less than 100 seconds at 100° F. Saybolt.
Sulphur—Not over .4 per cent.
Baume Gravity—Not over 25 at 60° F.
Cold test of distillates having a viscosity of 1000 seconds at 100° F. shall not be over 5° F.
"B" GRADE—All Coastal crude which does not meet the test for "A" grade.

Official Postings and Differentials

(Revised to April 21, 1931)

California: (Prices effective March 30).

In all **Los Angeles Basin** fields (except Playa del Rey) oil from 14 gravity to 20.9 gravity is 65 cents. Deduct 3 cents for each degree up the scale to 30.9, making this the lowest at 35 cents. Fields in this group include **Alamitos Heights, Long Beach, Seal Beach, Torrance, Athens, Rosecrans, Dominguez, Santa Fe Springs, Montebello, Huntington Beach, East Coyote, Richfield and Brea-Olinda.**

Playa Del Rey: 56 cents flat, 20-26 gr.

In the **San Joaquin Valley fields,** 11 to 11.9 gravity crude is 50 cents per barrel, 14 to 14.9 gravity, 55 cents. Differential of 2 cents off each degree up the scale makes 30 gravity and above 35 cents per barrel. Fields in this group include **Coalinga, McKittrick, Kern River, Sunset-Midway, Elk Hills, Buena Vista Hills** and **Lost Hills.**

Santa Paula 14 to 19.9 gravity, 60 cents; 20 gravity, 58 cents; 21 gravity, 56 cents, and take off 3 cents for each degree up to and including 28 gravity. Orcutt 14 to 19.9 gravity, 55 cents, and take off 2 cents for each degree up to and including 29 gravity which is 35 cents.

Oklahoma-Kansas-North Texas: (Effective March 5, 1931). Below 29 gravity 43 cents with differential of 2 cents to 40 and above. Magnolia Petroleum Company posts 40 cents for below 26 gravity with differential of 1 cent to 29 gravity, 43 cents. From 29 to 40 and above, same schedule as foregoing. North Texas posting applies to oil produced in **Wichita, Wilbarger,** Archer, Northern Young, Van Zandt, Mexia, Powell, Boggy Creek, Richland, Wortham, Currie.

Ranger, North Texas, Moran and Cook County oil: Below 29 gravity, 33 cents with differential of 2 cents for each degree to 40 and above which is posted at 57 cents a barrel.

Texas Panhandle: (Effective April 21, 1931).

Gray County: Below 35 gravity, 33 cents with differential of 2 cents for each degree to 40 and above which is posted at 45 cents a barrel.

Carson-Hutchinson Counties: Below 35 gravity, 30 cents with differential of 2 cents for each degree to 40 and above which is posted at 42 cents a barrel.

East Texas: (Effective March 26). Same scale of prices as Oklahoma-Kansas-North Texas.

West Texas and New Mexico: (Effective April 21, 1931).

Winkler and Pecos County, Texas: Flat price of 35 cents a barrel.

Lea County, New Mexico: flat price of 32.5 cents a barrel.

Southwest Texas: (Effective April 21, 1931).

Refugio Heavy: Below 25 gravity 60 cents a barrel. **Refugio Light:** 25-25.9 gravity 61 cents with differential of 2 cents for each degree to 35 and above which is posted at 81 cents a barrel. **Mirando Crude:** 60 cents. **Salt Flat:** 53 cents. **Darst Creek:** 53 cents. **Pettus:** 75 cents.

Gulf Coast: (Effective April 21, 1931).

Grade **"A":** 70 cents a barrel. Grade **"B":** Below 25 gravity 60 cents a barrel; 25-25.9, 61 cents with differential of 2 cents for each degree to 35 and above which is posted at 81 cents a barrel. **High Island,** 75 cents; **Jennings,** 80 cents; **Markham,** 50 cents.

North Louisiana and Arkansas.

Pine Island, Haynesville, Bull Bayou, El Dorado, Cotton Valley, Zwolle: Below 29, 43 cents with differential of 2 cents to 40 and above. Magnolia Petroleum Company posts 40 cents for below 26 gravity with 1 cent differential to 29 gravity, 43 cents. From 29 to 40 and above, same schedule as foregoing. **Stephens:** Below 29, 54 cents with differential of 4 cents to 32 and above. **Smackover,** 45 cents; **El Dorado east field** 70 cents; **Bellevue,** 45 cents.

North Louisiana and Arkansas. (Effective Mar. 10, 1931).

Salt Creek: 29-29.9 gravity 45 cents with differential of 2 cents to 37 and above. **Elk Basin** and **Grass Creek,** 90 cents; **Big Muddy,** 65 cents; **Lance Creek,** 98 cents; **Rock Creek** 66 cents; **Mule Creek,** $1.20; **Rex Lake,** $1.10; **Osage,** 50 cents; **Cat Creek,** $1.25; **Pondera,** $1.45; **Sunburst,** $1.55; **Hogback, N. M.,** $1.40.

Eastern States: (Effective November 13, 1930).

Bradford, Allegany district, $2.15; **National Transit** oil, $1.85; **Southwest Pennsylvania** oil, $1.80; **Eureka P. L. (W. Va.),** $1.70; **Buckeye P. L.** oil, $1.45; **Corning** crude, $1.15; **Somerset** in **Eureka Lines,** 75 cents; **Ragland,** 60 cents; **Oil City, Ky.,** 70 cents.

Michigan—Midland, $1.10; **Muskegon,** below 29 gravity, 65 cents with differential of 4 cents to 35 gravity; 31-31.9, 92 cents with 3 cent differential to 44 gravity and above.

Central States: (Effective March 5, 1931).

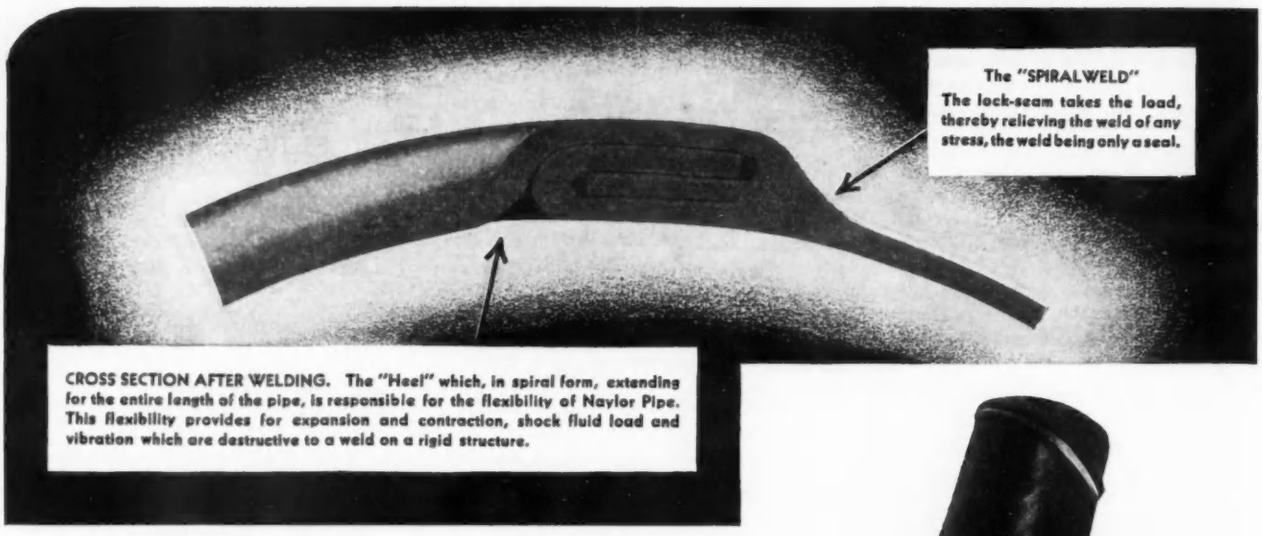
Wooster, 99 cents; **Lima,** 90 cents; **Waterloo,** $1.20; **Indiana,** 50 cents; **Princeton,** 80 cents; **Illinois,** 80 cents; **Western Kentucky,** 75 cents.

Canada: (Effective October 28, 1930).

Petrolia, $1.50; Oil Springs, $1.57.

STRUCTURE.....

what it means in Naylor SPIRALWELD Pipe



CROSS SECTION AFTER WELDING. The "Heel" which, in spiral form, extending for the entire length of the pipe, is responsible for the flexibility of Naylor Pipe. This flexibility provides for expansion and contraction, shock fluid load and vibration which are destructive to a weld on a rigid structure.

NAYLOR SPIRALWELD Pipe is made with an electrically welded spiral lock-seam truss. This construction, exclusive with Naylor SPIRALWELD Pipe, provides these definite outstanding structural advantages:

1. MAXIMUM STRUCTURAL STRENGTH
2. MINIMUM WEIGHT 3. FLEXIBILITY

Because of the added strength provided by its lock-seam truss structure, Naylor SPIRALWELD Pipe is being used for the same pressures as standard weight wrought pipe—yet it weighs one half as much. The light weight makes Naylor SPIRALWELD Pipe economical in transporting, handling and installing. It will reduce your total pipe line costs.

The flexibility of the Naylor lock-seam truss structure automatically provides for expansion and contraction throughout each length. Thus, your pipe investment is protected against damage from expansion and contraction caused by temperature changes or ground pull. You economize on expansion joints, too, for none are necessary with Naylor SPIRALWELD Pipe. When the service is within its structural limitations, there is no other pipe made that offers the outstanding advantages of Naylor SPIRALWELD Pipe.

For long life, Naylor SPIRALWELD Pipe is made of Toncan Iron—the corrosion-resisting alloy of iron, copper and molybdenum. This is an additional protection for your pipe line investment!

NAYLOR PIPE COMPANY

Main Office & Plant, 1230 East 92nd Street, CHICAGO

PIPE CARRIED IN STOCK AT CHICAGO, HOUSTON AND LOS ANGELES

SALES OFFICES

NEW YORK, 3116 Chrysler Building
PHILADELPHIA, Witherspoon Building
TULSA, 507 Philtower Building
HOUSTON, 2301 Commerce Street
FT. WORTH: 402 Petroleum Building
LOS ANGELES: Champion & Barber, Inc., 576 Subway Terminal Building., Exclusive Distributors: California, Nevada and Arizona
MONTREAL, CANADA: Mechanical Equipment Company, 660 St. Catherine St., West
VANCOUVER, B. C.: Gordon & Belyea, Ltd., 101 Powell Street
MEXICO: C. H. Elstner, Apartado 284 Monterrey N. L.

Economists Agree on Needed Production Increase
(*Continued from page 30*)

Of particular interest to the producer is the close agreement between these reports on the quantity of crude required during this six-month period. The Federal Oil Conservation Board's committee estimates the total crude demand at 491,434,000 barrels, as shown in Table 4. The American Petroleum Institute's committee estimates the demand at a total of 499,954,000 barrels, as shown in Table 1 and also in Table 4. Conforming to these predictions is THE OIL WEEKLY estimate for that period of 496,839,000 barrels, as shown in the comparative summary at the beginning of this article. It will be noted that the American Petroleum Institute's committee offered no specific recommendations as to probable necessary withdrawals of crude from storage, although the report stated that substantial withdrawals are expected. This committee stated that from October 1, 1930, to March 1, 1931, the draft on crude oil stocks averaged 124,300 barrels daily, and it is assumed that withdrawals from storage during the peak season which comes in the period under review will increase substantially over the daily average figure indicated. It is obvious, therefore, that the A. P. I. committee expects withdrawals from stocks to the extent of at least 18,000,000 barrels, which, together with imports of 30,000,000 barrels, makes a total from sources other than current production of about 48,000,000 barrels. Deducting this amount from the estimated total demand of 499,954,000 barrels would result in a net production requirement of 451,954,000 barrels. This compares with an estimate of 444,034,000 barrels by the A. P. I. committee and 447,589,000 barrels by THE OIL WEEKLY.

In addition to setting forth the probable demand for gasoline and crude oil, the report of the A. P. I. committee also presented some significant estimates on the fuel oil outlook. These are summarized in their Table 1 and presented in more detail in their Table 4. The report stated that despite the low level of business activity, the outlook for the demand of gas and fuel oil is slightly in excess of that experienced in the corresponding period a year ago. Nevertheless, the refinery production indicated will be sufficient to care for demand and stocks on October 1, 1931, will be practically equal to those existing on the same date of the previous year. In Table 6, A. P. I. report, will be found for each refinery area for each month from April to September, 1931, inclusive, a statement of the prospective production, shipments and economic levels for gasoline stocks at refineries. A similar statement is given in the Federal Oil Conservation Board report in their Table 5.

Petroleum Association Meeting at Cleveland

Cleveland, Ohio.—The twenty-eighth semi-annual meeting of the National Petroleum Association opened here April 23 at the Cleveland hotel with a session that afternoon on economics. E. B. Swanson, chairman of the committee on petroleum economics of the Federal Oil Conservation Board, presented a paper, "An Analysis of Crude Oil and Gasoline Supply and Demand for the Period April 1-September 30, 1931." The meeting concluded April 23 with several papers covering the general subject, "The Railroads and their Competitors."

Present Allowables to Be Continued Through September

St. Louis.—Present daily crude oil production allowables will be continued through September if means can be found for enforcing the recommendations of the oil states advisory committee in its initial report to the governors of the several producing states represented by that body. Such recommendations being contingent upon the promise of major importers to reduce by at least 25 per cent the volume of incoming oil.

The report of the advisory committee was concluded at a meeting held here Tuesday and Wednesday, April 14 and 15, and was presented before the economic session of the midyear meeting of the refining division of the American Petroleum Institute Wednesday evening.

In making their recommendations to the governors the committee had the benefit of sitting in with the economic committee of the refining division and the advance copies of the survey released by the voluntary committee on economics for the Federal Oil Conservation Board. Although agreeing with demand figures set out by these two bodies the advisory committee found that:

"No sufficient reasons or inducement has been shown in the reports of either of the aforesaid mentioned reports of the committees to justify our states in making any increases in oil allowable production during the six months period (April 1 to October 1, 1931) and that it will be for the best interests of all our states, represented, and we so recommend to our governors and to the various conservation authorities of these respective states, that there be no increase of allowables of production of crude oil within such period of time, beyond the present allowables established in those states where proration or conservation orders are actual production of those other states now producing oil and not having proration or conservation regulations."

A Fact-Finding Body

The oil states advisory committee, appointed to consider possible uniform state conservation laws, without mandatory power, in its recommendations finds itself acting in the role of an economic fact finding committee and further reports:

"It is the unanimous opinion of this committee that such program will best promote conservation of the natural resources of our states and will best prevent waste, preserve taxable values and do those other things which are for the direct benefit of our states; and that if the actual needs of the petroleum industry during this period shall exceed the actual production hereby recommended, as indicated by both reports hereinabove mentioned, then it will be to the best interest of all concerned for additional needs for crude oil to be filled out of the present excessive amounts of oil held in storage in the United States; or if the owners of such stored oil do not desire to so use said stored oil, then that sufficient inducements should be held out to the various states interested to justify this committee in recommending increase in production to meet such demand.

"As a necessary corollary to said recommendations, this committee further calls attention to the voluntary offers of

the various importing companies to the Federal Oil Conservation Board, to curtail by at least 25 per cent their importation of crude oil, gasoline and other petroleum products and likewise reduce their actual production of crude oil in foreign countries, such as agreements having been made upon a three months basis initially, commencing April 1, 1931, and contemplating such 25 per cent reductions as compared with the same periods in 1930; and this committee hereby recommends that the continuance of present allowables and rates of production by the various states be contingent upon the continuance, in good faith, for the entire six months period beginning April 1, 1931, of such 25 per cent (or greater) reduction in importations and in foreign production.

"The following are the present daily allowable or production figures upon which these recommendations are based:

Texas	714,000 barrels
Oklahoma	550,000 barrels
Kansas	110,000 barrels
California	500,000 barrels
Arkansas	50,000 barrels
Louisiana	65,000 barrels
New Mexico	40 000 barrels
Eastern States	110,000 barrels
Rocky Mountain States	60,000 barrels
Total for United States	2,199,000 barrels

"The foregoing suggestions contemplate possible increase from 525,000 to 550,000 barrels daily in Oklahoma, if market demand for same shall be adequately shown in proposals now pending before the Oklahoma Corporation Commission to increase the Oklahoma City field allowable from 125,000 to 150,000 barrels daily."

In attendance at the meetings of the advisory committee and signing the report were: Cicero I. Murray, chairman, Oklahoma; W. H. Cooley, California; Carl M. Cox, Wyoming; W. Scott Heywood; Louisiana; T. C. Grimm, Ohio; Warwick M. Downing, Colorado; Van S. Welch, New Mexico; T. H. Barton, Arkansas, and Robert R. Penn, Texas.

The report was presented to the American Petroleum Institute meeting by Robert R. Penn following an historical review of the oil states advisory committee's activities by Cicero I. Murray.

Yates Operators Demand Allowables Be Restored

(*Continued from page 21*)

tion Company also has a private pipe line outlet from the field, but has in the past and will continue to absorb whatever amount of oil earned under proration by its leases. The latter does not purchase oil in the district.

Assuming that the commission will approve the request of the operators, the revised market outlet for the Yates field will be divided as follows:

Mid-Kansas Oil & Gas Company, 30,000 barrels;
Shell Petroleum Corporation, 24,500 barrels;
Humble Oil & Refining Company, 20,500 barrels;
Gulf Production Company, 12,000 barrels;
making a total of 87,000 barrels daily.

Mid-Kansas Oil & Gas Company nominated 36,554 barrels daily when the field was allowed 89,500 barrels, and now requisitions 30,000 barrels daily, or slightly less than its actual production in the field. Shell Petroleum Corporation was taking 19,503 barrels under the 89,500 barrel schedule, but now has need for 24,500 barrels daily, including controlled and purchased oil.

Shell Petroleum Corporation is to boost its taking from the Hobbs field, New Mexico, from 11,000 to 15,000 barrels daily beginning May 1. This company increased its nominations 1000 barrels April 16, and during the latter part of March made a substantial increase in purchases in the Howard-Glasscock County district, West Texas. In fact Shell Petroleum Corporation appears to be the only larger purchaser in West Texas and New Mexico, except for Cosden Oil Company and Burford Oil Company, both having local plants, that has increased need for sulphur crudes.

Revision of potential production figures on the Yates field, which is now credited with a mythical figure of 5,507,504 barrels daily from 401 wells, is in prospect, but not on an open flow basis. Acting upon a motion made at the Dallas meeting, a committee of engineers will meet in the field next week to discuss a method of gauging the old wells based on well pressure declines, and bottom hole pressure.

Old completions in the field have not been re-gauged for potentials since late in June, 1929. Testimony was given that the pinching of the field recently to 70,000 barrels daily has boosted the gas-oil ratio on some wells located at high points on the structure.

Violations of Anti-trust Laws or Price-Fixing Not to Be Condoned

Washington, D. C.—The U. S. Department of Justice has no intention of embarking upon a "trust-busting" campaign, but violations of the anti-trust laws under the guise or as a means of improving business conditions will not be condoned, nor will price fixing activities, direct or indirect, in the oil or other industries.

This warning was given by Attorney General Mitchell, April 15, during the course of an address before the Law School Association of the University of Minnesota.

"The principal cause of depressed business conditions has been world-wide over-production," the attorney general said in this connection. "The greatest difficulty in readjusting this has been in those industries connected with natural resources, such as oils and other minerals, and lumber. The gradual readjustment by individual effort based on self-interest is too slow a process to satisfy the industries involved and suggestions are made for concerted action and combinations to reduce production and importation of these commodities.

"Any such combinations having the direct effect of restricting production and limiting the supply of commodities in interstate and foreign trade, and the effect of indirectly but inevitably raising the prices for such commodities, have heretofore been generally thought to violate the anti-trust laws, but arguments have been advanced that waste of natural resources is resulting from this over-production and that element is urged as introducing into the situation a justification for action which otherwise would be unlawful.

"Some of the interests involved have not been pleased at the lack of enthusiasm in the department of justice for

these proposals. I recently read one statement that the department was not showing 'constructive co-operation' in these matters. By constructive co-operation I suppose was meant a usurpation by the attorney general of an authority not granted him by law, to decide that for the time being, and during the present emergency, the enforcement of the anti-trust laws is not in the public interest.

"The anti-trust laws have a double purpose. They are to protect the consumer against exorhitant prices and to prevent the oppression of the small business man and insure to the average individual freedom to engage in trade and commerce. Combinations and agreements covering an entire industry and intended to restrict production have the double purpose, and will have the ultimate effect of raising prices and if the combinations are to be permitted the public must have something to say about the prices to be charged, and I have never been able to discover, and no one has ever been able to suggest, how combinations of this kind may be permitted without forcing the government into the business of fixing or regulating, or at least in some way determining, the prices to be charged the public. While we do regulate the charges made by public utilities, it has not become evident that the people of this country are ready to have an officer or bureau or commission at Washington tell them what they must pay for oil or bread or lumber or other essential commodities."

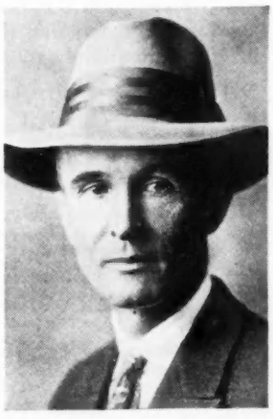
San Antonio Independents Name Pennington President

San Antonio, Texas.—Harry Pennington, petroleum engineer and independent oil producer, was elected president of the San Antonio Independent Oil Men's Association at the organization meeting held at the San Antonio Casino Club, Monday noon, April 20. The organization is to be affiliated with the Independent Petroleum Association of Texas.

Claude Witherspoon, C. E. Stalker and R. F. Schoolfield were chosen vice-presidents; B. D. Stevenson was named secretary; and F. M. Frasher was named treasurer. The following directors were chosen: J. E. Walsh, George C. Cannon, E. M. Jones, Al Buchanan, Alexander Boynton, and Judge Nelson Lytle.

In his preliminary remarks, Mr. Pennington told of the work being done by the Independent Petroleum Association of Texas, and reminded those in attendance that this organization was responsible for the common purchaser law and other legislation designed to protect the interests of the independent producer, among which was the marginal well bill. He pointed out that, whether the oil man likes it or not, he is in politics, and deplored the tendency of the government to interfere with the conduct of the oil business.

Other addresses were given by Mr. Witherspoon, Thomas H. Ethridge, Judge Nelson Lytle, A. F. Dixon of New York, and R. F. Schoolfield.



HARRY PENNINGTON

Eighth Gas Measurement Short Course Draws Good Attendance

Norman, Oklahoma.—The eighth session of the Southwestern Gas Measurement short course, held here at the University of Oklahoma, April 21, 22 and 23, was one of the largest and most enthusiastic meetings of technical men allied with the oil and gas industry. It is the only course of the kind in America.

Sessions were held in the class rooms and laboratories of the College of Engineering, and the various types of equipment were demonstrated and explained by factory representatives and oil and gas company employes, in addition to university instructors. Presentation of the course was made possible through the assistance of the Corporation Commission of Oklahoma, Oklahoma Utilities Association, natural gas department of the American Gas Association and the Natural Gasoline Association of America.

Manufacturers represented and displaying equipment were as follows: The Bristol Company; Chaplin-Fulton Manufacturing Company; B. V. Emery & Company; The Foxboro Company; Metric Metal Works of the American Meter Company; McEwen Regulator Company; McGaughey Integrator Company; Pittsburgh Equitable Meter Company; Refinery Supply Company; Robinson Orifice Fittings; Sprague Meter Company; Taylor Instrument Company; Westcott & Greis, Inc., and Fisher Governor Company.

The purpose of the course has been to provide, by means of the co-operation of the various interests named, an opportunity for the men in the natural gas industry to get together and study their mutual problems, particularly those pertaining to the measurement and regulation of dry and casinghead gas with the idea that measurements will be made more accurately and the public will be better served.

The course is managed by a general committee of 15 active members who are appointed each year by the gas division of the Oklahoma Utilities Association.

C. B. Day, Consolidated Gas Utilities Company, Blackwell, Oklahoma, chairman of the general committee, presided at the general sessions. The visitors were welcomed by Dr. W. B. Bizzell, president of the University of Oklahoma.

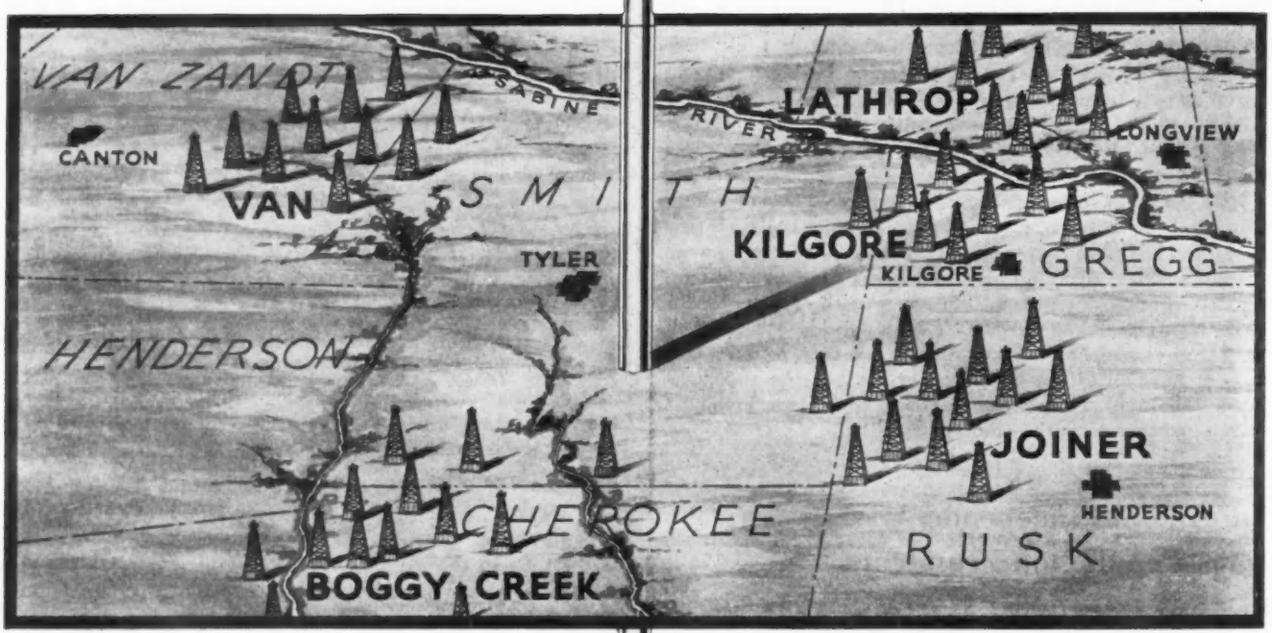
Addresses were delivered by R. E. Miller, secretary, Natural Gasoline Association of America; E. J. Stephany, secretary, Natural Gas Department of the American Gas Association; and R. W. Hendee, vice-president, Oklahoma Natural Gas Corporation.

Among the papers scheduled were the following: "Responsibilities of the Metermen," by R. H. Lussky, of the Oklahoma Corporation Commission; "Problems in Elementary Gas Laws," by E. F. Dawson, college of engineering, University of Oklahoma; "Calculation of Wet and Dry Orifice Meter Charts," by E. E. Stovall, Lone Star Gas Company, Dallas; "Special Industrial Installations," by C. D. Williams, Kay County Gas Company, Ponca City, Oklahoma; "Operation of Orifice Meters," by W. R. McLaughlin, Arkansas Natural Gas Company, Shreveport, Louisiana; "Problems of Wet Gas Measurement," by George P. Bunn, Phillips Petroleum Company, Bartlesville, Oklahoma; and "The College of Engineering and the Gas Measurement Short Course," by J. H. Felgar, dean of the College of Engineering, University of Oklahoma, Norman.

Numerous other papers were delivered, covering every phase of gas measurement from the different principles of the orifice and positive meter types to the fundamentals of gas laws.

THIS BOOKLET

tells why they drill so Straight in East Texas



DRIFTMETER JUNIOR On Vertical Deviations

Crooked holes used to be the bane of every producer and drilling contractor. *Used to be,* because there was nothing to be done about them unless inaccurate, unsafe and slow methods were used to measure vertical deviations. Now practically every producing company of note in the Mid-Continent and Gulf Coast fields has adopted modern measuring methods to protect their drilling investments against the possibility of costly crooked holes.

Driftdiscs; convenient, permanent records

Keeps Accurate Check

for a few cents per reading

Driftmeter Junior has established enviable records for speed, accuracy, ruggedness and economy, in runs varying from several hundred to thousands of feet, regardless of the conditions imposed upon it. Driftmeter Junior's many exclusive advantages over other types of measuring instruments are described and illustrated in a new 8-page booklet, just published. Your copy will be mailed with our compliments, upon request. Please use the coupon below.

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616 EXCHANGE BANK BLDG., TULSA, OKLA.

THE THRIFT CORP., M. & M. BLDG., HOUSTON, TEXAS

Stocked by: Decker Well Supply, Joinerville; Republic Supply Company, Kilgore and Turnertown; D. W. Elliott, Tyler

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▼ ▼ THE WEEK'S NEWS ▼ ▼

Litigants Reach Agreement On East Texas Proration

Austin, Texas.—East Texas proration is to begin with the injunction remaining on the docket, but neither side is requesting setting for hearing. A new committee of 11 has been named to handle the situation consisting of C. F. Roeser, chairman; W. L. Todd; H. R. Dickerson; J. F. Stuckey; J. R. Suman; C. H. Hardison; R. H. Laird; Gus Taylor; Jack Robert; Glen Harroun; and J. R. Alford. Present umpires remain in charge to end of 60-day period with proration to continue after that time if situation is satisfactory and three pools to be consolidated as one at end of period.

New figures for May: East Texas, 130,000, divided: Joiner pool, 60,000; Bateman pool, 40,000; Lathrop pool, 30,000. May 15, 140,000, divided: Joiner 64,000; Bateman, 44,000; Lathrop, 32,000. June 1, 145,000, divided: Joiner, 66,000; Bateman, 46,000; Lathrop, 33,000. June 15 to July 1, 150,000: Joiner, 68,000; Bateman, 48,000; Lathrop, 34,000. This is recommended by the committee for order by the railroad commission and will probably be placed in force by them. It is specifically understood that the central proration committee has nothing to do with this agreement and that ratable takings between pools in other parts of the state are not considered.

Texas State Oil Committee Organized; Seek Conference

Austin, Texas.—The Texas legislative oil committee consisting of Governor Sterling, chairman, C. V. Terrell of the railroad commission, Attorney General Allred, Senators Woodward, Woodul, Parrish and Pollard, and Representatives Howsley, Lasseter, McDougald, Hardy and Johnson, at its meeting held April 16, voted to send out invitations to the governors and legislative oil committees of California, Oklahoma, Kansas, Wyoming, Louisiana and Arkansas, to meet with the Texas committee in Austin, May 4, for the purpose of studying constructive, uniform legislation to be recommended to the legislatures of the several oil producing states.

During the meeting Senator Pollard pointed out that it was imperative to arrange this meeting at the earliest possible date, as some legislative bodies are now in session, thus preventing the necessity of calling special sessions for consideration of proposed oil and gas laws. He said that he feared that federal legislation would be enacted unless the states themselves made progress in preparing legislative action.

Representative Lasseter moved to issue an invitation to Cicero I. Murray of Oklahoma, but this was withdrawn when it was pointed out that parties other than those included in the general invitation, should be excluded as participants at the meeting.

It was agreed at the meeting that a quorum of nine members of the 12 on the committee, should be required for the official transaction of business; and the house rules were adopted for regulation of the committee's activities.

Attention was called to Senate bill 595 by Senator Parrish, passed April 15, which would give State Land Commissioner Walker the right to offer for sale for oil producing purposes, the river bed leases in Gregg, Harrison, Rusk, Upshur, Wood, Smith, Henderson, Angelina, Anderson, Cherokee, San Augustine, Panola, Shelby, Nacogdoches, and Van Zandt Counties, one-eighth royalty in oil, gas and other mineral rights being retained by the state, besides the bonus paid for the lease. Mr. Walker was quoted as saying that the Sabine river lease would bring $100,000 not including royalties. The money derived from this source is to go into the permanent school fund, according to the terms of the bill.

The oil legislative committee was formed as a result of a resolution proposed March 18 by Senators Pollard of Tyler and Parrish of Lubbock, that a committee of seven be appointed to meet with similar committees of Oklahoma, California, Arkansas, Louisiana, Kansas and Wyoming, to make a thorough study of oil, gas and minerals.

The original resolution was amended to increase the committee from seven to 12, including the governor, who was to act as chairman.

Independent Petroleum Association Annual Meeting at Tulsa April 24

Tulsa.—The annual meeting of the Independent Petroleum Association of America will be held here, April 24, following a meeting of the directors held the previous afternoon. Elmer Thomas, senator from Oklahoma and Elmer Hoch, member of the house of representatives from Kansas, will speak in the afternoon. These men were leaders in the effort to place petroleum imports in the tariff schedule during the last session of congress.

WIRT FRANKLIN

The membership meeting will begin in the morning, when Wirt Franklin, president of the national association, will deliver his annual address. The reports of Russell B. Brown, executive secretary, and Dudley C. Monk, treasurer, will be made then.

The banquet in the evening will be the occasion for a speech by Harry H. Rogers, president of the Exchange Bank of Tulsa, on "The Effect of Oil on the Industrial Welfare."

Texas Law Restricts Limiting Output of "Marginal" Wells

Austin, Texas.—Governor Sterling has signed the marginal well bill, presented by Baily Hardy of Breckenridge which provides that any pumping well within the state having a daily production of 10 barrels or less, producing from a depth of 2000 feet or less; any pumping well having daily production of 20 barrels or less, producing from a horizon deeper than 2000 feet and less in depth than 3500 feet; or any pumping oil well with daily production of 40 barrels or less, producing from a horizon deeper than 3500 feet shall be considered a "marginal" well and shall not be subject to restrictions of production as set up by the Texas Railroad Commission or any proration action. And the curtailment of such marginal well under the terms of the bill, is to be considered waste.

East Texas Proration Truce Seen as Stabilizing Influence

Austin, Texas.—An agreement calculated to immediately stabilize the oil market in East Texas, was reached here Monday, April 20, between officials of the East Texas Lease and Royalty and Producers' Association and leading proponents of proration, when a 60-day truce was agreed upon insofar as the Estes injunction is concerned.

The actual agreement was reached between Judge Charles L. Bradfields, president; Carl Estes, secretary; and E. H. Lasseter of the association and David Treadwell, Charles F. Roeser, Ed. A. Landreth, R. E. Hardwicke and Jack B. Roberts, proponents of proration. The agreement is subject to the approval of the Texas Railroad Commission and J. D. Moore of Austin, the district judge from whom Estes received his temporary injunction which has held up proration of the area.

It is understood that the truce calls for an increase in allowable production of the new area.

Marlin, Texas. — "East Texas will be perpetrating a crime if it does not ratably produce its marvelous store of oil," explained Guy Blount, president of the East Texas Chamber of Commerce before the fifth annual convention of the organization held here April 20. He made a stirring appeal for proration and for conservation of natural resources.

"We are faced," Mr. Blount said, "with the biggest thing in the history of East Texas. We have millions and millions in oil. We have enough oil to make East Texas the most prosperous spot in all the world for the next 50 years."

Texas Legislature Places Two Taxes on Natural Gas

Austin, Texas.—The house of representatives adopted an amendment to the Holder occupation tax bill April 21, levying a tax of two cents per 1000 cubic feet on the wholesaler of natural gas. This amendment was offered by Representative Clarence Farmer of Fort Worth. On the basis of gas consumed in 1930, this tax would bring in a revenue of $4,317,147. However, production of natural gas during 1931, will far exceed that produced last year, it was pointed out.

A free conference committee report on the Sanders natural gas tax bill was adopted earlier by the house. It would levy a gross production tax of two per cent on all natural gas produced. It had already been adopted by the senate. The bill now awaits executive action.

Oil Waste Topic Before United States Chamber

Washington, D. C.—"Waste and Production in the Petroleum Industry," will be the topic of an address to be delivered by Joseph E. Pogue, consulting engineer, New York, at the round table discussion, April 29, during the annual meeting of the National Chamber of Commerce at Atlantic City.

This round table will develop the present condition of the major natural resource industries—petroleum, coal and lumber; the wastes; the efforts to regulate production and the obstacles encountered; what the industries would like to do in the interest of stability and conservation; and the advisability of modifying the anti-trust laws as they affect these industries.

The session will be held in the Renaissance room, the Ambassador Hotel, starting with a luncheon at 1 p. m.

Oil Field and Refinery Fires Result in 11 Deaths in Texas

Fort Worth, Texas.—An epidemic of oil field, pipe line and refinery fires during the past week exacted a toll of 11 lives in Texas. Seven were burned fatally in a series of freak fires in the Kilgore field, East Texas district, and the remainder lost their lives as result of refinery explosions and fires at Wichita Falls and Del Rio.

Claude E. Upchurch, formerly of Corsicana and more recently of Tyler, was fatally burned April 17 when supervising the completion of his part interest well on the W. P. Brightwell farm, Kilgore field, by escaping gas becoming ignited by a nearby boiler. J. W. Smith, 35, and R. C. Holcomb, 34, both pipe line workmen, were also fatally burned. Lee H. Gray, formerly of El Dorado, Arkansas, vice-president of the Sabine Pipe Line Company of Texas, and E. T. Greene, pipe line workman, were seriously burned. On the morning previous to this fire, the discharge from a broken crude line became ignited in a tent colony in the Kilgore field and fatally burned Burt Bishop, 22; Mrs. Kate Dodson, 39, and her two children.

Three workmen at the Wichita Falls refinery of Panhandle Refining Company were fatally burned on the morning of April 16 when an explosion and fire caused about $30,000 damage. The victims were: C. R. Walker, J. A. Horne and R. K. Krull.

Glenn Kaley, 30, an employe of Marathon Oil Company's refinery at Del Rio, Texas, was seriously burned at the plant, and ignited the bandages on his body accidentally while in the hospital with fatal results.

Sanford E. (Red) Manning, 36, oil field supply executive of Houston, was accidentally killed April 18 when a pistol fell to the ground and fired as he was getting out of an automobile in front of a filling station in Houston. Mr. Manning had served as president of the Houston Oil Field Material Company, vice-president of R. S. M. Company, president of Oil Field Salvage Company, and vice-president of Beaumont Texan Tool Company. He was with Humble Oil & Refining Company from 1919 to 1925. He is survived by his wife, Mrs. Lillie Manning, and a daughter, Nadine Manning. He is also survived by several brothers and sisters, the brothers including M. Manning, production department, Humble Oil & Refining Company.

S. E. Manning

Personal Mention—Men You Know

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George Legh - Jones, president of Shell Oil Company of California, has temporarily assumed the position of president of Shell Petroleum Corporation, St. Louis, filling the vacancy of U. de B. Daly, resigned, pending the election of a new president. Shell Oil Company of California and Shell Petroleum Corporation are both subsidiaries of Shell Union Oil Corporation, New York, a holding company.

GILLETTE HILL

Gillette Hill, formerly vice-president of Phillips Petroleum Company, has recently been made active vice-president of Moody - Seagraves - Morgan Company, Houston. Mr. Hill was connected at one time with the Waite Phillips Company, later going with Philmack Company after Phillips sold out to a group of New York bankers. Philmack Company was absorbed by Independent Oil & Gas Company and Mr. Hill was made vice-president of that organization. Independent Oil & Gas Company was later combined with Phillips Petroleum Company and Mr. Hill went over to the combined organization as vice-president.

J. A. Meyers, vice-president, and sales manager for the industrial division of American Hammered Piston Ring Company, Baltimore, Maryland, accompanied by Mrs. Meyers, is on a tour of two weeks in the Gulf Coast and Mid-Continent territory. With Jon R. Long, general manager of Petroleum Equipment Company, Fort Worth, distributors in Texas for American rings to the oil industry, they made a three-day visit last week in Houston.

V. C. Fuller, purchasing agent for Gypsy Oil Company, Tulsa, spent three days in Houston last week with the purchasing department of Gulf Production Company.

H. L. Pratt, chairman of the board of directors, and T. S. Fales, vice-president of Standard Oil Company of New York, are vacationing in Los Angeles. Mr. Pratt is the guest of J. A. Brown, president of General Petroleum Corporation.

Martin Van Couvering, consulting petroleum engineer, will soon return to Los Angeles, following a meeting in Washington, D. C., of the board of economics of the Federal Oil Commission, of which he is a member.

E. R. Rich, vice-president of General Petroleum Corporation of California, recently returned from an extended visit to New York and Eastern cities.

H. W. Parmalee, well known in Southern California oil circles, has become chief construction engineer for interests which are now building a gas line from Northern Montana to copper smelters in the southern part of the state.

M. D. HIPP

M. D. Hipp, drilling superintendent for the Societe Romana-Americana, Roumanian subsidiary of Standard Oil Company of New Jersey, recently returned to the United States and is spending a vacation in Houston.

Roy A. Reynolds, consulting geologist, has returned to headquarters at Fort Worth, Texas, after having spent the past eight months in making a reconnaisance of oil and gas prospects in five countries in Europe for a group of Eastern capitalists. J. Elmer Thomas, who is also of Fort Worth and was former chairman of the volunteer committee on economics for the Federal Oil Conservation Board, was included in the group of geologists that made up the party, and will return within a few weeks.

HARRY A. WINGER

Harry A. Winger, drilling foreman for Iraq Petroleum Company, is en route to the United States on holiday bent after a five-year tour of duty in Mesopotamia.

R. S. Ellison, president of Stanolind Crude Oil Purchasing Company, announced April 20 that at a meeting held Saturday, April 18, Henry Watters was appointed executive assistant of the company. Mr. Watters has been chief scout for a great many years and will continue this work and title along with his new duties.

B. H. van der Linden, of The Hague, general manager of production for Royal Dutch-Shell interests, is making an inspection of the group's properties in the United States and Mexico.

C. D. DOORNIK

of Holland, who is studying petroleum engineering with the Shell company in California, preparatory to service with the Royal Dutch-Shell organization in the Netherlands, Indies, or elsewhere.

Oil and Gas Pipe Line Activities

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Pipe Line Daily Runs Lower During March

New York.—Crude oil deliveries by the 11 companies of the old Standard group, according to Dow Jones & Company, during March totaled 10,514,994 barrels, a daily average of 339,193 barrels, as compared with 9,629,165 barrels, or 343,898 barrels daily during February.

Runs from wells by eight reporting companies amounted to 1,508,737 barrels, a daily average of 48,669, as compared with a total for February of 1,426,071, or 50,931 daily.

Prairie Pipe Line Company's deliveries totaled 2,095,788 barrels, or a daily average of 67,606 barrels for the month. This compares with 2,147,670, or 76,703 daily in February and 6,114,572, or 197,244 daily as of March, 1930.

Buckeye Pipe Line Company's deliveries totaled 3,339,881, or 107,738 daily, an increase over February when deliveries averaged 98,021 barrels daily.

A comparison of deliveries by the several reporting companies follows:

	——Runs from wells——		——Deliveries——	
	March	Feb.	March	Feb.
Buckeye Pine Line Company.....	402,481	371,546	3,339,881	2,744,594
Cumberland Pipe Line Company..	168,106	158,426	164,066	138,317
Eureka Pipe Line Company.....	294,873	271,589	557,424	624,948
*Illinois Pipe Line Company.....	400,632	406,054	520,877	538,006
Standard Oil Company (Indiana).	3,199	3,593	960,959	1,178,702
National Transit Company.....	137,918	121,907	1,075,789	906,018
New York Transit Company.....	28,392	25,972	190,702	161,832
†Northern Pipe Line Company...	.....	.....	517,003	369,794
†Prairie Pipe Line Company.....	.....	.....	2,095,788	2,147,670
†Southern Pipe Line Company...	.....	.....	131,807	120,506
Southwest Pennsylvania Pipe Line Company	73,145	66,984	960,698	698,778
Totals	1,508,746	1,426,071	10,514,994	9,629,165
Daily average	48,669	50,931	339,193	343,898

*Exclusive of Texas operations. †Publishes deliveries only.

Gas Lines Competing for Southern Montana Business

Anaconda, Mont.—A natural gas war of large proportion promises to be waged by important financial interests in southwestern Montana cities and towns this summer. Ohio Oil Company is bringing gas from its Dry Creek field in the southern part of the state into Bozeman this month, and at the same time Montana Power Company is hastening its preparations for a line from the Cut Bank district in northern Montana to furnish the cities of Bozeman, Butte, Anaconda, and Helena as well as other communities in the district. Ohio Oil Company's 118-mile line from Bozeman has most of the preliminaries already finished, with only three more river crossings yet to be completed. Montana Power Company started actual construction on April 13.

St. Louis.—A. J. Malcon, Dallas, Texas, was elected president of the Petroleum Industry Electrical Association at a meeting of the board of directors, April 20. R. M. Bayless of Houston was named vice-president.

Ford, Bacon & Davis Forms New Construction Subsidiary

New York.—Ford, Bacon & Davis Construction Corporation has been formed as a wholly owned subsidiary of Ford, Bacon & Davis, Inc., to handle all contract construction activities for the entire organization. The new company was organized under the laws of New York state and will have executive offices at 39 Broadway and field offices at Dallas, Texas.

Officers of the company are Edgar G. Hill, president, James F. Towers and William von Phul, Jr., vice-presidents, and Henry F. Storck, secretary and treasurer. Mr. Hill and Mr. Towers are also vice-presidents and directors of the parent organization. Mr. von Phul, Jr., will manage the Dallas office of the new company and direct its field activities in oil and gas pipe line projects.

Projects now under construction by Ford, Bacon & Davis, Inc., include the last link of the 960-mile Texas Panhandle-Chicago natural gas pipe line, a section 155 miles long; the East Texas-Shreveport oil pipe line for a Cities Service subsidiary and the Western Gas Company development. The organization also built the third section in the Texas-Chicago line.

Philadelphia.—Atlantic Refining Company has annonuced the construction of a gasoline pipe line from the company's refinery at Point Breeze, Philadelphia, to Scranton and thence to the New York state line. Work of construction will be done by Keystone Pipe Line Company, a Pennsylvania corporation wholly owned by officers of Atlantic Refining Company.

The company's plans include ultimate extension of the two main lines from Point Breeze, one to Scranton and Harrisburg, later to be extended into New York State, and one westward through Pennsylvania to Pittsburgh and Franklin. At the latter place the company has a 9000-barrel daily capacity refinery, while at Pittsburgh the company operates an 8000-barrel plant.

Line Completion Gives Big Lake Gas Wells Outlet

San Angelo, Texas.—Texas Public Service Company completed its 78-mile, 12-inch line Saturday, April 18, capable of delivering 17,000,000 feet of gas to San Angelo daily, from the Reagan County field. The line was laid, coupled and covered in less than 40 working days.

The line connects with the world's nine deepest oil and gas producing wells located in the Big Lake field, which have tested approximately 20,550,000 cubic feet of gas daily.

News From California Fields

BRAD MILLS, ***Staff Representative, Los Angeles, California***

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Production Test Disappointing On Huntington Beach Deep Well

Huntington Beach, Calif.—The long-awaited production test of W. E. McCaslin's Transport 17, a deep test in the Huntington Beach field, failed to add to the enthusiasm of operators hoping for a new producing zone. This well was drilled to 7615 feet and tested below a 4¼-inch shutoff at about 6900 feet. A string of tubing was hung at 4250 feet and later shifted to 6100 feet. Mud and water was swabbed for some time, but well failed to respond with a satisfactory flow. The formation between the 4¼-inch shutoff and bottom showed streaks of oil sand and shale, but there were also streaks of questionable sand.

Excitement at Huntington Beach increased steadily after announcement that Superior Oil Company had cored oil sand below 7000 feet in Fee 1, which is now standing idle at 7490 feet. A production test was made between 7000 feet and 7250 feet, but the well failed to produce oil. The hole was deepened to 7490 feet and all preparations made for another production test, but all work was suspended.

Activity toward reaching the deeper zone is much more limited than currently reported. Several locations have been made, but the outcome of the tests now under way will be awaited before drilling is started. The deepening of two more wells by Superior Oil Company indicates that this operator believes the deep zone will produce. Reports that Wilshire Oil Company will deepen several wells were premature. This company is re-conditioning a few wells but has not passed the deepest producing zone.

No Significant Developments Occur in Playa del Rey Area

Los Angeles.—Most of the pending completions in the Playa del Rey field will be finished in the deep zone, with a few in the western sector to be completed in the shallow zone. There were no significant developments during the week, unless further information gained on the position of the schist beds is taken as an indication that the deep zone is definitely limited in all parts of the field.

Union Oil Company found the schist above 6060 feet in Townsite 9, following the cementing of a string of 6⅝-inch casing at 5915 feet. Birch-Royer Oil Company found schist at 6135 feet in Lovell-Community 1, but cores also showed oil below the top of this broken formation. The presence of oil sand immediately above the schist beds so associates the two that it is not probable that the oil sand will be very thick at any place. The producing zone has been irregular, rising and falling out of line with structural trends.

No wells were completed during the week, but several deep tests will be finished during the next three weeks. The townlot sector is very quiet and few locations will be made here, regardless of developments on the larger leases. Deepening of the shallow townlot producers is a remote possibility.

Operators Try Various Plans To Reduce Light Oil Gravity

Los Angeles.—California, long famous for witnessing unusual situations, seems to be in the midst of one as queer as it is unusual. With light crude 35 cents per barrel, the very heavy grades ranging from 55 cents to 65 cents per barrel, gasoline retailing at from 7½ cents to 10½ cents per gallon, fuel oil bringing around 60 cents per barrel, and operators wondering whether they will find a ready market for the light oil at any price, a reversal of trends in several branches of the industry has been evident for several weeks.

When gasoline prices were slashed, there was an immediate outcry that crude prices wouldn't justify such low gasoline quotations. To remedy this, the protestants were sawed off at the knees with a reduction in crude prices. Whether the reductions were justified is an entirely different story.

As might be expected, operators are trying all kinds of schemes to reduce the gravity of their oil. One enterprising producer is reported to be reducing the gravity of his oil by exposing it to the sunlight, plus a series of steam coils to boil out the gasoline. He loses about one barrel in three, but the two remaining barrels are worth $1.30, as against $1.05 for the original three. This practice is limited to operators in one or two fields.

One large independent refiner has a more legitimate method of reducing the gravity of the light oil purchased under contracts. This company takes the 30-35 gravity oil and sends it through the refinery in the usual manner. A gasoline recovery of 30 per cent is made. The remaining fuel oil is sold at more than 60 cents per barrel. The total revenue from the gasoline and fuel oil is far greater than that which would come from the sale of the original light oil. Other refiners are following similar tactics, such operations being limited, however, by the fuel oil market.

This is the first time in modern petroleum history that the lighter constituents have been dissipated, rather than conserved. Before the advent of the automobile, gasoline was not wanted and weathering out was not unusual. The belief is held that such a condition will not prevail for a long period.

Organization of the Oil Producers' Sales Agency definitely points toward co-operation among independent operators. The majors actually approve such an organization and may work with the smaller companies in achieving the desired end. The agency has already announced that it will approve a plan to hold the state production to 500,000 barrels. Some of the largest independent operators in the state are supporting the organization, which will pool production of the members and find the best market for it.

Limited Market Apparent

One of the most important problems confronting the industry is that of purchases of various companies over a long period. A limited market is slowly but surely closing in on operators who produce and sell oil to principal purchasers. For years practically all oil produced was bought and few questions asked. There was the customary grum-

bling during periods of overproduction, but the small operator disposed of his oil to the principal purchasers. These large purchasers insist that they are now at the end of their rope and can not afford to buy oil and store it in the face of present storage and output. Many of the smaller operators can see their predicament and have already agreed to produce only the proper percentage of the state total. Production may ultimately be limited by the extent of crude requirements.

A special committee is about ready to report the new allowables for the state. These totals for the various fields will be a surprise to many of the operators themselves. If the anticipated decrease in intercoastal (Atlantic seaboard) shipments takes place, the recommended allowable for the state will be about 460,000 barrels, a reduction of 40,000 barrels from the present allowable. If the decrease is somewhat greater than expected, the allowable will be reduced to 399,000 barrels. If the intercoastal shipments decrease sharply (around 40,000 barrels daily), the state allowable may even be reduced to 368,000 barrels. Such sharp cuts in the state allowable could not be made under ordinary circumstances, but with the threat of limited purchases staring everybody in the face, there is reason to believe that California's production can be reduced far below the present level.

One way or another, the small California producer has been able to dispose of his production in the past, at least until a few months ago. The major purchasing companies were eager to dominate the crude market so that some control could be maintained on refined products. It was only through the purchase of all surplus crude that a satisfactory gasoline market was maintained. The few purchasing companies disliked the accumulation of stocks in the form of crude oil, but the value of their own product largely depended upon their ability to maintain a high price schedule.

Large and Small Suffer Alike

The smaller operator disposed of his production with little difficulty, but he is now paying for his part in overproduction. The major purchaser is also paying for his part, because both the refined and crude product are lower than at the time of purchase. The operator who produces and sells crude oil is also faced with the problem of disposing any amount over his allowable. He may even find it difficult to sell all of his allowable if the surplus of everybody is not eliminated. Some unexpected favorable turn may develop, but none is in sight.

Increased refinery operations on the part of the independents is supposedly weakening the demand for light crude from the major purchasers. This increase is expected to result in an effort on the part of the majors holding the surplus stocks to reduce their own surplus, rather than running newly purchased crude. Increased gasoline production from small refineries limits the refinery operations of companies now purchasing crude, it is claimed. Production of crude oil and refinery runs are much more closely connected than the average producer formerly believed, while gasoline consumption may largely determine the state allowable.

Liquidation of stocks will not benefit the average producer, any more than it will benefit the company liquidating such stocks at a loss. When these stocks are gone, they are gone, and statistically the industry will be in better condition than before. Liquidation nearly always means a loss, because there is usually something wrong when liquidation is necessary. The producer sold much of the stocks to the purchaser, so he will have to stand by while reductions are being made.

The injunction recently granted against Kettleman Hills operators may serve to hold this field in check, along with the unit plan. The gas-oil ratio was broadly fixed at 1:10,000 and no wells may be operated with a greater gas-oil ratio. Provisions of the injunction must be met by May 1. Under the terms of the injunction, no well may be completed which has not penetrated the Temblor zone at least 1000 feet and Christmas trees must be able to withstand pressures of 5000 pounds. The order will mean the killing of several wells, unless a modification is obtained, as several producers are flowing more than twice as much gas as allowed.

California seems to be getting nowhere with special legislation affecting the oil industry. Many bills have been introduced, but operators are split on the affect of the principal provisions. One bill provides for the appointment of an oil conservation commission, the proposed statute having the approval of several organizations. Independent and major operators are divided on the principal bills introduced during the present session of the ligislature.

Plan Production Test of Deep Well at Seal Beach

Los Angeles.—Continental Oil Company will make a production test in McGrath-Selover 24, a deep well in the Seal Beach field, after drilling to 9055 feet and cementing a string of 6⅝-inch casing at 8126 feet. This is by far the deepest well ever drilled in the Seal Beach field and one of the deepest ever drilled in the Los Angeles basin. Continental Oil Company during its early operations was a pioneer in this field. A well was drilled past 7000 feet early in 1928 and it is interesting to recall that the test was regarded as an unusually deep one at the time. McGrath-Selover 24 will test an entirely new zone and even a small well would be an important development. The Seal Beach field is divided into two sections, one a townlot district and another an area having only large leases. The townlot area is practically exhausted, while the conservatively developed area is still producing at a satisfactory rate.

Test of North Belridge Well Reveals Narrowness of Temblor

Bakersfield, Calif.—The preliminary test a week ago of Union Oil Company's Belridge 17, was an important development, but the flow of oil and gas was much smaller in the North Belridge well than currently reported. The hole was cleaned out to bottom at 5541 feet and swabbed for a combination shutoff and flow test. The well started flowing at a 1200-barrel rate, but the volume declined quickly and production was about 250 barrels in 20 hours. A test had been made previously, but swabbing brought mostly water. A string of 6⅝-inch casing was cemented at 5350 feet. The action of the well indicated that the Temblor zone will be productive only along a narrow strip. Belridge 17 has been killed and is now being deepened at 5600 feet. The low gas pressure was in sharp contrast to the discovery well, and deeper drilling is expected to include that portion of the Temblor formation which is producing best in the original completion. The last cores showed streaks of water sand, indicating that nearly the full thickness of Temblor was tested in the first place.

The fact that the well flowed clean oil from the first 200 feet of sand was encouraging and practically eliminated the belief that the water produced during the first test was coming from below the shoe of the final string. Belridge 17 is located more than a mile southeast of the discovery

well, but along a structural trend. The same distance to the north of the original producer probably would yield a dry hole in the Temblor zone. The well is just inside the producing limits of the shallow zone and supports the theory that producing area of the Temblor zone will roughly underlie the shallow sand. At best, the deep zone will be a narrow producing strip and most of the edge tests probably will not find production. Belridge 17 produced 40 gravity oil during the preliminary test, a much heavier product than that from the dsicovery well.

Belridge Oil Company is active in only two wells, having shut down four of its tests. Unfavorable developments in various offsets have eliminated the necessity for such an aggressive drilling campaign. This company will control the bulk of the productive acreage in the immediate field, but nearby districts may prove productive in the Temblor zone. Continental Oil Company, Ohio Oil Company, Reward Oil Company, The Texas Company and Standard Oil Company are each active in one well, while General Petroleum Corporation is making a deep test to the south in the main Belridge field.

Fear that the North Belridge field would upset the more settled production in the San Joaquin valley does not now prevail; but a good production of 40-47 gravity oil may be developed in a small area. Several of the edge wells are definitely out of the running and will ultimately be abandoned.

Well at Coalinga Down to 8091 Feet Ready for Test

Coalinga, Calif.—Standard Oil Company of California's No. 7Q-21 has been drilled to 8091 feet and no more hole will be made before making a production test. The hole is being reamed at 7500 feet. The Temblor zone was found at 6775 feet, but a string of 9⅝-inch casing was cemented at 6632 feet. This will give the well a penetration of more than 1200 feet and will include the formation which is producing the heavier oil in most recent completions. The company's No. 29J-65 is temporarily held up with a fishing job at 7735 feet. About 275 feet of drill pipe was lost in the hole.

The value of various leases on Section 36-21-17, on the east flank should soon be determined, with four wells under way along the southern base of the section. Shell Oil Company's Dixon 1 is closest in and should be the best producer, barring mechanical difficulties and structural conditions not now known. This well is drilling in oil sand at 7900 feet, with the 9⅝-inch casing cemented over the Temblor formation at 7260 feet. North American Oil Consolidated is drilling ahead at 7085 feet in Blauvelt 1. The longest string of 13⅜-inch casing ever run was recently cemented in this well at 6763 feet.

On the Middle Dome, Petroleum Securities Company is drilling at 5700 feet in Burbank 1, which should be the first completion in this district. Standard Oil Company is drilling at 4200 feet in No. 29V-6, an offset.

Los Angeles.—The present high price for heavy crude, in comparison to that offered for lighter grades, is being used as an excuse to develop certain districts, particularly near Hermosa Beach and Manhattan. The development started long before the present price schedule was placed in effect, but promoters are eager to cite the unusual differential. Several wells are being drilled near Hermosa Beach, the district being an extension of the Torrance field. Several years ago, major operators turned the district down, due to the small initial production of completions. Only a small production will be developed at best.

First Ocean Test at Rincon Not Considered Impressive

Ventura, Calif.—The first ocean test on the N. C. Needham permit in the Rincon field is being tested at 3030 feet, but the action of the well has not been very impressive. Located on a short pier which is a continuation of General Petroleum Corporation's 1800-foot pier, the well was expected to reveal the possibilities of a continuation of the structure toward the west. A string of 13⅜-inch casing was cemented at 2925 feet and the 100 feet of formation included in the test is sufficient to insure a good flow under favorable conditions. General Petroleum Corporation's Ferguson 2, the first completion outside the mean high tide line, was a fair producer, flowing about 1000 barrels. The first activity on ocean permits pointed to a drilling campaign, but production in the original tideland completion checked development.

The Rincon field was discovered more than three years ago, with the completion of a small well along the beach. The usual rush to develop small leases flanking the ocean took place and soon more than 20 wells were drilling. The field proved to be one of the most inconsistent producers ever found in Ventura County and not an outstanding completion was recorded. Various levels were used for finishing the wells, but production declined rapidly. Even very deep tests were drilled without avail. The cheapest and best production was obtained between 3000 and 4000 feet, but there was little assurance that good completions could be recorded at any depth.

Development of the ocean permits promised to revive drilling operations, but operators were slow to get under way. The best part of the field probably lies under the ocean, but the characteristics of the mainland leases may mark the ocean permits as well.

Wildcat Well Near Fullerton Shows Salt Water When Tested

Los Angeles.—Test of Standard Oil Company's Bastanchury 1, a wildcat near Fullerton, showed salt water at 8145 feet. The hole was cleaned out to bottom to test the possibility of a bridge, but no such obstruction was found. The hole was plugged to 7940 feet for the test. Bastanchury 1 is east of the West Coyote field and is by far the deepest test drilled in the vicinity. A production test was made around 6000 feet and a production of about 200 barrels was obtained. This makes the well a semi-wildcat in the shallower zones, but such a yield at this depth might not prove commercial. The last string of casing was 8⅝-inch at 6945 feet. A little less than two miles separates the West Coyote and East Coyote fields, but Bastanchury might be called an effort to extend the West Coyote field in a new deep zone, rather than an attempt to find an entirely new field.

Santa Barbara, Calif.—Bolsa Chica Oil Corporation continues to work with Augur 191-1, an ocean test off Coal Oil Point, but the well responds feebly to the swab. On a pumping test, some oil was produced, but the bulk of production was water. The well was drilled to 4191 feet and plugged back to 4120 feet. Too much formation was included and a satisfactory water shutoff was never effected. The well was supposedly located on top of the ocean structure, but cores proved this not to be true. The structure remains a potential producer, despite the action of the first well. A high gas pressure was developed in the top of the Vaqueros sand, but there is still some doubt concerning the efficacy of the water shutoff.

Oklahoma--Kansas Field Notes

FLOYD SWINDELL, *Staff Representative, Tulsa, Oklahoma*

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McPherson County Still Is Most Active Area in Kansas

Wichita, Kansas.—Seven of the nine first reports of oil activities in Kansas were in McPherson County in the Ritz-Decker-Garrett area, the one bright spot in the state. Recent completions have not served to simplify the rather complex structural problem in the Garrett sector. Prairie Oil & Gas Company and Gypsy Oil Company encountered top of the "chat" at 2965 feet and had a hole full of water at 2998 feet in their Way 1, SE SE SE Section 18-19s-1w, approximately mid-way between the edge of the Decker structure and Darby Petroleum Company and Shell Petroleum Corporation's Kaegi 1, 14,000,000 foot gas well in the NE NE NE Section 20-19s-1w. Structurally, the Way 1 is 64 feet lower than the Kaegi well, further defining the syncline which has been mapped between the two tests.

Twin Drilling Company and Phillips Petroleum Company found a hole full of water in the Viola lime horizon in their Dielman 1, CNE NW Section 22-19s-2w, first well to test the lower horizon on the southwest side of the Decker gas structure. Top of the "chat" was encountered at 2948 feet, 23 feet lower than the nearest well to the northeast, indicating a uniform southwest dip. Top of the Viola lime was found at 3426 feet, only 26 feet structurally lower than the discovery well in that horizon.

Under normal conditions Reno County probably would be the scene of a drilling boom on the basis of Study, Turner et al's Haury 1, SEc Section 1-23s-4w, in the northeastern part of the county. This well was completed at 3254 feet for an initial production of 335 barrels in March, 1931. Three wells are now drilling at interesting depths, one rig is completed and a location announced in the same section with the discovery well. Shell Petroleum Corporation and Continental Oil Company are due to reach the producing horizon within the coming week in their Blakes 1, CSW SE SE, west offset to the discovery well. At last report it was drilling below 2990 feet. McPherson Oil & Gas Development Company and Shell Petroleum Corporation are drilling below 2975 feet in their Goering 1, CSW SW NE, approximately one-half mile northwest of the discovery well in the same section. Two locations to the north of the McPherson and Shell test Derby Oil Company and Reserve Petroleum Company are drilling around 2550 feet in their Goering 1, CSW NW NE Section 1-23s-4w. All development in the section is located approximately on a northwest-southeast line and the wells now drilling should do much toward defining the structural axis.

Drilling Operations Resumed On Love County Wildcat Test

Ardmore, Oklahoma.—Batson, Starrett and Autry have resumed drilling at 918 feet in blue shale after being shut down several days for repairs in the Dr. Autry 1, NW NW NW of Section 26-6s-2e, Love County wildcat about seven miles northeast of Marietta, and approximately 10 miles due southeast of production in the Brock pool.

This test is located in an area which holds many possibilities but about which little is known structurally. Cretaceous beds lying almost horizontal at the surface conceal the altitude of the underlying Pennsylvanian over almost the entire area there being only one spot in the county where rocks of the Pennsylvanian age outcrop. All structures in this part of the state strike approximately northwest-southeast which fact lends interest to any test drilling to any appreciable depth in the trend.

The same operators are still cleaning out in an attempt to pump their Dillard 1, center of SE NE NW of Section 25-6s-2e, an old dry hole which passed up oil sand at 1586-96 feet. Several months have been spent in reconditioning this test and it is believed good for a small producer from that sand.

Oklahoma City's May Potential Estimated at 7,157,00 Barrels

Oklahoma City.—After taking potential gauges on 567 out of a total of 757 completed wells in the Oklahoma City pool, Otto Bradford, field umpire, estimated that the May 1 potential would be approximately 7,157,000 barrels. Of the remaining 190 wells, a large percentage is gas producers which do not enter into the task of estimating potential, and several wells are being reworked and are therefore not in condition to be tested. Daily average production for the past week was among the high points on the curve when the pool averaged 192,690 barrels. A new one-day production record was established on Wednesday, April 15, when 126 wells produced 283,576 barrels exceeding production for the day before when 105 wells gauged 224,276 barrels. Total production from the pool is due to take a sharp drop during the next 15 days when wells will be making up overages established while taking potential tests.

Only two wells were completed during the week but both were in the gusher class and added a total of more than 97,000 barrels initially. Phillips Petroleum Company continued to hold its lead in the completion of large wells when Forrester 1, CN½ SE SE NE, Section 3-11n-3w, flowed 7100 barrels in four hours through a 5¼-inch choke at 150 pounds back pressure. Production is coming from Wilcox sand topped at 6266 feet and drilled to total depth of 6377 feet. Sinclair-Texas Pipe Line Company is connecting. J. E. Mabee et al completed a long fishing job and brought in their Mills 1, NE SW NE NW, Section 10-11n-3w. Production the first hour was 2295 barrels with gas estimated at the rate of 31,000,000 feet; total depth is 6510 feet.

Shaffer and Riddle's Giles 1, NE NE NE SW, Section 15-11n-3w, two locations west of production, has been held up another week and probably will not have its initial gauge before the end of this week. Operators expect a large well and are erecting additional tankage so that the potential gauge of four hours flowing time can be handled. T. B. Slick Estate et al announced abandonment of their Townsend 2, NEc SE NW, Section 1-11n-3w, adjacent to the fault. Pay was encountered at 6487 to 6549 feet, but the

best production was 63 barrels in one day flowing by small heads. Townsend 1, south offset to the well just abandoned, was completed June 16, 1930, flowing at the rate of 9302 barrels the first 24 hours. Subsequent development to the north and east indicated that it was near the fault plane and on the east edge of big production.

Carr City Pool Completions Cause New Interest In Area

Seminole, Oklahoma.—Recent completions in the northwest edge of the Carr City pool in the Greater Seminole district have forced a new play for that area through drilling requirements. Four locations have been announced and work will commence at an early date. Prairie Oil & Gas Company's Hussman 2, SW SE NE, Section 3-8n-5e, is a cellar. Empire Oil & Refining Company's Brown 3, NW NE SE, Section 3-8n-5e; Amerada Petroleum Corporation's L. Tiger 1, NE NW SE and its L. Tiger 2, SE SW NE, Section 3-8n-5e, are locations.

Mid-Continent Petroleum Corporation's Tommy 1, SE NE NE, Section 25-8n-7e, directly west of the Wewoka Townsite pool, will be abandoned after coring dry sand at 3175 to 3185 feet in the upper part of the Wapanucka and coring sand showing water at 3330 to 3344 feet, the total depth.

Lippa Drilling Company et al shot their Phillips 1, SW SW SE, Section 8-9n-6e, new well east of the East Earlsboro pool in the Seminole district. This second shot of 40 quarts was placed at 4215 to 4245 feet in the Wilcox sand after a first shot had failed to materially improve production. During the first 21 hours after the last shot operators swabbed 300 barrels of oil and no water was reported.

Tatums Pool of Carter County Has No Completions for Week

Ardmore, Oklahoma—The Tatums pool in northwestern Carter County is gradually passing out of the picture as a leader of Southern Oklahoma activities. No completions or locations were made during the past week and only five locations are active, one of which is a plugging back operation which will probably result in abandonment.

Louis Sikes' Hopson 1, NE NW NE of Section 25-1s-3w is the most interesting test at the present time due to its location midway between two dry holes and on the south edge of the district. It is now shut down awaiting cement to set at 2130 feet after having logged broken oil sand at 2134-2250 feet and solid oil sand at 2254 to 2269 feet. Additional broken sands were logged at 2300-2303 feet and 2496-2526 feet; total depth is 2620 feet in black shale. This test is located 1320 feet east of Westheimer and Daube's Westheimer No. 1, which was abandoned at 2801 feet and Carter Oil Company's Hopson No. 1, which was drilled below 2500 feet without encountering commercial production.

One-quarter of a mile southeast of production and directly between the southeast edge of the pool and Frank Gouin and others' extension well in Section 31-1s-2w, Magnolia Petroleum Company is shut down awaiting cement to set at 1600 feet after plugging back its L. C. Burton 1, NW SE NW of Section 30-1s-2w. The original depth was 4115 feet. Three new tests got under way during the week. Carter Oil Company is drilling below 875 feet in its J. C. Taylor 1, SW NW NW of Section 19-1s-2w on the west side of the pool. Lesh and McCall's Carter 2, NE SW SW of Section 14-1s-3w on the northwest edge of production should be the next test to penetrate the producing horizon. It was drilling at 1350 feet at the end of the week and should be setting the last string of casing within the next few days. In the next section east Amos Drilling Company and Walter H. Gant have resumed drilling after cementing surface pipe at 32 feet in their Sparks-Hooks and others' 1, SE SE SE of Section 13-1s-3w.

One of the most interesting developments in Southern Oklahoma is that of Mid-Kansas Oil & Gas Company and Ramsey Petroleum Corporation in their Preston-Clup 6, NW NE NE of Section 6-5n-9w, deep test in the western portion of the Cement field in Caddo County. At last report it was shut down at 6097 feet repairing boilers after coring hard sand showing oil at 6068-6077 feet. Coring will be resumed and the search for deeper production continued although the show just encountered apparently is good for commercial production. This is one of the deepest oil sands encountered in this part of the state. Magnolia Petroleum Company is drilling below 2785 feet in shale on its Estes 2, SE SW NE of Section 10-5n-9w after having had a small show of oil in sand at 2400 feet.

Hugoton Gas Area Records Little New Development

Wichita, Kansas.—New work has declined in the Hugoton gas field until the area is relatively unimportant so far as development is concerned. However, a gas reserve in excess of 700,000,000 cubic feet daily has been established and only a small amount of gas has been removed from this structure which is proven over an area of more than 10 townships. Several towns in that part of the state are being supplied and lines now under construction and proposed for future construction will give the field an appreciable outlet to distant points.

Although gas is reported to have been sold for as low as seven cents per 1000 cubic feet at the wells during the past winter an increased outlet during the next winter should bring about an increased price and act as a stimulant for a normal amount of drilling during the rest of 1931.

Argus Gas Company has a rig up for its Greenwood 1, CNE Section 24-4n-13e, Texas County, Oklahoma. This test well be about 15 miles southwest of the main portion of the pool. Location of production at this point would indicate a structural connection between the main field and gas production which has been obtained from what is apparently the same horizon for many years in southwestern Texas County, Oklahoma. There are now four locations, one rig, five drilling wells, and one well shut down in the Kansas portion of the field.

Field Course Offered by University of Oklahoma

Norman, Oklahoma.—The School of Petroleum Engineering of the University of Oklahoma offers an eight-week field course in the petroleum industry, from June 11 to August 7, 1931. Six semester hours of credit will be given to those successfully completing the course. The course will consist of a study of operating methods in the Greater Seminole area and in the new Oklahoma City oil field. It includes a study of drilling methods, oil well completion and methods of production, natural gasoline plants and methods of treating and refining crude oil, as well as methods of transportation for natural gas and crude oil. Prerequisites for taking the course are at least 75 college or university hours, including at least eight hours of chemistry and 10 hours of physics or geology. The fee for the course will be $50.00. Further information can be obtained from H. C. George, director, School of Petroleum Engineering, University of Oklahoma, Norman, Oklahoma.

East Central Texas Field Notes

H. H. KING, ***Staff Representative, Fort Worth, Texas***

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Longview Field Extended Three Miles to the North

Longview, Texas.—Extension of the Longview field more than three miles to the north and between two dry holes is expected to result from the recovery of an oil saturated sand core at 3659-64 feet from Ernest Eslick-Little and others' W. R. Nicholson 1, located a short distance east of the Gregg-Upsher County line. A successful completion will then give the Joiner-Kilgore-Longview area an unbroken proven stretch of about 30 miles, although very narrow on the extreme north end. Casing is to be cemented above the oil sand, and in the meantime trading has been active in leases and royalties on a direct line between this outpost test and the main field. Nicholson 1 is located 150 feet north and 1205 feet west of the southeast corner of the Marshall Mann Survey, and on a 1094-acre farm. It is more than a mile northwest of Mrs. Mamie Hammond et al's Hammond 1, which recently drilled into Georgetown lime at 3685-3724 feet. The latter has re-cemented casing to try for production in reported soft formation above the lime.

The way was partially paved for a continuation of the Longview field to the north during the past week when Pilot Oil Company's McGrede 1, located on a 36-acre lease in the southwest part of the D. Sanches Survey and west by north of the Spring Hill Cuhrch producer of Eslick et al, tested 228 barrels oil per hour on tubing flow from broken sand and shale at 3592-3681 feet. McGrede 1 logged Pecan chalk at 2412-3006 and first Austin at 3566 feet, with a surface elevation of 413 feet. The total depth is minus 3268 feet, while the present total depth of Nicholson 1 is minus 3244 feet. The latter logged Pecan chalk at 2476-2918 feet, and Austin chalk was topped somewhere between 3587 and 3624 feet.

The original portion of the Longview field is not maintaining its percentage of field operations, and the new work is mostly scattered over a wide area between outpost wells to the west and southwest, as recently the most prolific completions have been scored in these directions and toward the Kilgore field.

Northeast and Southwest Parts Of Kilgore Area Are Productive

Tyler, Texas.—Extreme northeast and southwest portions of the Kilgore field contributed large producers during the past week that proved up territory that was already conceded to be productive. Herman Heep Oil Corporation et al's P. W. Barber 1, Wm. McCurry Survey, shortened the gap towards the Longview field by flowing 500 barrels oil per hour from broken sand and shale formation at 3515-3553 feet, with about 5,000,000 cubic-foot daily flow of gas accompanying the oil. The oil from this well tests 42.2 gravity at 90 degrees temperature. It is located near the east flank of the structure and northeast of Kilgore.

Gulf Production Company and Devonian Oil Company's R. A. Motley 1, located in the southeast corner of the north 147-acre Motley tract, Wm. Killen Survey, and about one mile northeast of Overton, gauged 209 barrels oil during first 22 minutes on open flow from sand at 3664-81 feet. This well later flowed 150 barrels per hour through ¾-inch choke on tubing, with 350 pounds back pressure, and is being held to 10 barrels per hour pending completion of connections with Gulf Pipe Line Company's system. Motley 1 logged Pecan chalk at 2684-3043 feet and Austin chalk at 3518-50 feet, with a surface elevation of 376 feet. Since the hole was drilled to a minus depth of 3304 feet, or near the assumed water level on the west side of the field, the production will be watched for water encroachment, as it is slightly further west than the two wells in the older section of the field that are making water.

Snowden & McSweeney Company came into its first production in the Kilgore field last week by completing A. Laird 1, which gauged 141 barrels during first 10 minutes via various size chokes from regular sand at 3597-3679 feet, with shale at 3679-87 feet. This company drilled a 3500-foot dry hole about 10 years ago several miles due east of the mid-section of the Kilgore field, with a huge block of protection leases that includes some that are now within the proven area. The company has the distinction of having drilled the nearest dry hole to the long stretch of productive territory now in process of development.

Larger Allowable and Higher Prices Offered In East Texas

Tyler, Texas.—Extra inducement for East Texas producers to fall in line with proration schedules recently issued by the Texas Railroad Commission became numerous early this week when a greater production allowance was conceded to each of the three areas involved, and Humble Oil & Refining Company advanced its price from 45 cents per barrel to the current Oklahoma gravity schedule, at the same stroke the latter company cut prices on all other fields in Texas, except the Mexia-Corsicana and Van areas, thereby placing the latter group and East Texas at a distinct price advantage over all interior fields of the state.

Magnolia Petroleum Company has been paying Mid-Continent gravity scale prices in East Texas rather than to discriminate in prices between fields, and should the company meet price cuts in North Texas a revised schedule may also apply to East Texas.

Opponents to proration in East Texas compromised early this week and agreed to co-operate in restricting production to 130,000 barrels daily beginning May 1 for a 60-day trial. The original plan was to start off with an allowance of only 90,000 barrels daily for the district. Allowable production is to be boosted at intervals to 150,000 barrels daily after June 15.

Gauging of wells through 11/16-inch choke to determine potentials has been completed in the Longview field, and is well underway in the Kilgore and Joiner areas, all of which will have a separate production quota. Use of such a small choke in gauging wells will hold down potential figures to about one-fourth of the actual open-flow capacity. A table is shown herewith that carries detailed information on all completed wells in the Longview field, with official poten-

tial production gauges shown in the column on the right. Pilot Oil Company is reported to have been the only well owner that denied the field umpire an opportunity to make a potential gauge, although umpires in the other two areas have not been so fortunate.

Week-end completions in the Joiner field, included Pearl Oil Company (Paul Vitek's) Eaton 1, located southeast of Overton, with a yield of 2200 barrels oil during first 12 hours pinched from sand at 3681 to 3708 feet. This well registered unusually heavy pressure, and is rated as being one of the best wells in the field. It is one of the many tests drilled in the district from funds derived by promotion. Tidal Oil Company has strengthened its holdings in the north portion of the Joiner field by purchasing L. O. McMillan of Tyler and associates' Thompson 1, which gauged 604 barrels per hour on initial test, and 204 acres of surrounding leases. This big well is located in the southwest corner of the John Darley Survey. The consideration was not made public.

Kilgore Field Showing Largest Production Gains In New Area

Tyler, Texas.—Daily average production of the three East Texas areas during the week ending April 15 was 227,350 barrels from 220 wells. Further increases are certain to follow until proration is given its first trial beginning May 1. The Kilgore field is making the greatest strides in production, having produced an average of 132,400 barrels from 66 wells, with 46,900 barrels contributed by Humble Oil & Refining Company from 20 completed wells. Kilgore field maintained a daily average of 98,075 barrels during the week previous, and during the same period the district was credited with a daily average of 185,000 barrels.

Production is being boosted as new transportation facilities become available. In the meantime crude prices decline to new low levels as the supply increases. Reported sales of short quantities of crude at 10 cents per barrel, more or less, are difficult to confirm, but numerous sales and contracts are being made by smaller operators at prices ranging from 18 to 25 cents per barrel. These low priced contracts will complicate matters when proration is attempted, as it is certain that pipe line companies and brokers having attractive contracts will not surrender them and scatter their takings at higher price levels, while the same is also true in cases where producers have fortified themselves with contracts that now average more in price than can be obtained from the average purchaser.

Second Failure Is Recorded In Van Field Unitized Area

Tyler, Texas.—Completion of a second dry hole in as many weeks in the north central portion of the Van field unitized block has excluded a long narrow slice of acreage that has heretofore been expected to be productive by reason of being between production. Pure Oil Company's L. M. Browner 2, located in the southeast corner of 147.9-acre lease, John Walling Survey, was preparing to abandon early this week at 3020 feet after having drilled to the water level without encountering oil sand. This test logged first Austin chalk at 2632 feet. The same company's B. E. Crim 2, located in the southeast corner of 40-acre lease, Walling Survey, and about half mile further inside the producing circle, also missed the sand after drilling to 3012 feet, and was plugged.

Development work in the Van field proper declined to only five active tests early this week, including three on unitized acreage, but more locations are expected shortly in carrying out the fixed program of establishing production on all 40-acre units in the field. Work has been started on plugging back The Texas Company's R. V. White 1, which has declined to about 25 barrels oil daily, with more than two per cent water showing. This well was completed one year ago, making 1135 barrels natural from sand at 2760-2990 feet, with heavy gas flow in upper section of the sand.

Expect Many North and Central West Texas Refining Ventures

Wichita Falls, Texas.—Forcing of more small oil producers in North and Central West Texas to enter the refining business on a small scale is expected to follow in the wake of the new price schedule put into effect April 21 by Humble Oil & Refining Company. Construction of numerous small topping plants from makeshift equipment was already under way in the district prior to this new reduction in crude prices. These plants are set up in or near production that is without pipe line connections, or prorated to a marginal quota of only a few barrels daily per well, and the finished products are to be mostly sold locally, using trucks for distribution.

Bryson Oil & Gas Company of San Angelo and Bryson, Texas, propose to install a small topping plant near their producing properties in the Bryson field, Jack County. Wilson & Swain, who make their headquarters at Woodson, Texas, are operating a 50-barrel plant, located on their J. T. O'Dell shallow lease in the Woodson field. The Hoffman & Page Company, with headquarters at Eastland, Texas, are buying materials to install a 500-barrel plant near Eastland that will derive its oil supply from nearby properties owned by the company, while some outside production will be purchased. K. F. Page and C. W. Hoffman, both of Coleman, Texas, own this concern.

Goff Brothers and others of Rising Star, Texas, propose to set up a 200-barrel skimming unit on the Kilgore farm, Blake field, located in northern Brown County. Frank Spinney of Brownwood, Texas, and associates are to erect a similar sized plant in the south portion of Brownwood, and to obtain crude supplies from old pumping wells within a five-mile radius of the plant site. Will C. Young of Archer City, Texas, has set up a 250-barrel capacity plant near the latter point to operate on controlled oil, and will also purchase from nearby leases that are without a market outlet as sales of refined products permit. Panhandle Refining Company planned to erect a small skimming unit near Graham to handle shut-in production held by the company in the Cox pool, eastern Young County, but decided to build five miles of two-inch line from the discovery well to a tank car rack and ship the oil to the company's refinery at Wichita Falls. M. D. Carson proposes to erect a small plant at Brady, Texas.

Tyler, Texas.—Approach of proration enforcement on production in Rusk and Gregg Counties has not had the expected curbing influence in new field work, and the two counties started the present week off with a total of 435 operations, as compared to 417 one week previous. Rusk County is barely holding its own, owing to operators in the Joiner field losing some of their enthusiasm on new drilling because of congested crude markets, but Gregg County is advancing rapidly to new peak level on volume of work.

Field Operations in New East Texas Area

RUSK COUNTY OPERATIONS

Operator—	Lcns.	Derricks & Rigs	Active Tests	Total
J. S. Abercrombie et al		1		1
Geo. S. Anderson & Cox			1	1
W. D. Andy Anderson et al			2	2
Pat Armstrong & Pitts		1		1
Armstrong et al		1		1
Babcock-Gordon Oil Co	1		1	2
Ball Oil Corp. & Malone				
Nick Barbare (U.O.G.&M. Co.)	1			1
Beard & Hammond			2	2
Berry & Lewis			1	1
Bill & Dave Oil Corp			1	1
Big Indian Oil & Div. Co			2	2
H. L. Blackstock et al			1	1
British American Oil Co			3	3
Dan S. Brooks, Trustee, et al			1	1
Burton Drlg. Co. (Sabine Synd.)	4		2	6
Carolyn Oil Corpn.	1			1
Roy I. Carter (C.P. Oil Co.)	1	1	2	4
E. L. Chapman et al			1	1
Cordova Union Oil Corp. et al			4	4
Crabtree-Rowe-Johnson			1	1
Cranfill-Reynolds Co.		2	1	3
Carl G. Cromwell & Williams			1	1
J. G. Curtis & Lowe			1	1
M. A. Crum et al	1			1
Danciger Oil & Refg. Co		1	3	4
W. H. Dunning, Jr.			1	1
W. H. Dunning & J. H. Markham, Jr.			2	2
East Texas Loan & Dev Co., (Shubert)			1	1
East Texas Ref. Co		1	2	3
Harry W. Elliott et al		1	2	3
Elzey Drl. Co. et al		2	1	3
Geo. Fagg et al			1	1
Federated Oil Co.			2	2
Fitzsimmons & Thomason		1	1	2
Frank Foster-Deep Rock et al		1	2	3
Foster-Little et al			1	1
Fox-Butler & Heflin			1	1
Gibson & Johnson & Merrick Drl. Co.			1	1
Gilcrease Oil Co.			1	1
R. W. Giles (Shreveport Pro. Co.)			1	1
Dudley S. Golding-T. B. Cochran		1		1
A. M. Griffith et al			1	1
Gulf Coast Oil Co.		1	1	2
Gulf Production Co	4	3	6	13
Gulf Prod. Co.-Devonian Oil Co.			2	2
W. B. Hamilton-Consolidated Oil Co. et al			3	3
L. F. "Pink" Hammond et al		1		1
Haynes Drilling Co			1	1
Heep Oil Co. & Houston Oil Co.			1	1
Heep Oil Corp & Imperator Oil Corp.		1		1
Hicks Drilling Co.		1		1
Hill & Jack Younger		1		1
John W. Hoosier et al			1	1
Horseshoe Synd. (was W. B. Pierce)			1	1
Humble Oil & Refg. Co	3	7	14	24
Houston Oil Co		1	7	8
Houston Prod. Co.		1		1
H. L. Hunt et al			1	1
N. W. Hunter et al			2	2
A. R. Irwin et al		1		1
Johnson et al		1		1
C. M. Joiner (E. R. Tennant, Rec.)			2	2
Ed. M. Jones et al		1	4	5
Ed. M. Jones-Houston Oil Co.		1		1
K&M Oil Co. (Indian States Oil Co.)		2		2
K&P Oil Co			1	1
Karona Oil Co. (Heard)		2		2
J. S. Kimbrough et al			1	1
LaSalle & Davenport			1	1
Killerman & Hines		1		1
Killam & Reed (now K&P Oil Co.)		1		1
E. C. Laster, Inc.			1	1
E. C. Laster, Inc. & Miller		1		1
Lewis Prod. Co. & Selby O&G Co.		2	1	3
Lide-Taylor Oil Co.		2		2
Lide-Rowe Oil Co		1		1
Lively & Bryan			1	1
Pete Lively et al			1	1
Lucey Pet. Co. (Capt. J. F. Lucey)		1		1
Luling Oil & Gas Co			2	2
John F. Mabee, Inc		1	1	2
E. B. Madden et al			1	1
Magnolia Pet. Co	2	5	2	9
Marine Corp. et al		1	1	2
Chas. McDonald-Merrick Drl. Co.			1	1
C. L. McMahon et al			3	3
McMann et al		1	1	2
McIntyre Drilling Co			1	1
J. R. McMurray et al		1		1
McMillan et al			1	1
Melat et al			1	1
Merrick Drilling Co et al			1	1
Mid-Kansas Oil & Gas Co		1	1	2
C. B. Mitchell et al		1		1
Morefield Drlg. Co.-B. T. Head			1	1
Moody-Seagraves Interests	1	3	5	9
H. S. Moss & Pete Urschel			2	2
Moss et al			1	1
National Drl. Co.		1		1
Navarro Oil Co.			1	1
Navarro Oil Co. & H. L. Brown & Hill		1	1	3
H. E. Oliver—F. H. Brown & Republic			1	1
Olson Bros. et al		1	1	2
John W. Olvey & Sample		1	1	2
Pace et al		1		1
Pearl Oil Co. (Vitek)		1	1	2
Peery-Woody & C. W. Boller		1	1	2
Petroleum Marketing Corp			2	2
Phares & Sample			1	1
A. W. Phillips Oil Operators	1		2	3
Pollard et al			1	1
Pilot Oil Co. (Tom E. Cranfill)		2	1	3
Ray et al		1		1
Geo. B. Ray et al		1		1
W. C. Ray Drl. Co. et al			1	1
Republic Prod. Co.—Louis Hart			1	1
Republic Prod. Co.	1	1		2
Frank W. Roe		1		1
Robertson Drilling Co			1	1
Roeser-Pendleton, Inc.			1	1
J. S. Rushing et al			1	1
Rusk County Oil Co			1	1
Nat Sadler et al			1	1
Shasta Oil Co.		1		1
T. G. Shaw interests		1		1
Bert J. Shaw Oil Co. et al			1	1
Shell Petr. Corp.	1		1	2
Sinclair O&G Co.		1		1
H. R. Smith-Gulf Prod. Co		3	1	4
Snetcher & Pitman	1			1
Stanolind O&G Co	1	2	3	6
H. R. Smith-Houston Oil Co.	1		1	2
Snowden & McSweeney Co.			1	1
Southern Oil Co.		1		1
Sun Oil Co.	2	2	4	8
Suttle et al		1		1
Texas Inland OG Co. (Merrick Drl. Co.)			1	1
Texas Trading Co.			1	1
G. O. Thompson et al		1		1
Tidal Oil Co.		3	3	6
Tidal Oil Co.—W. M. Hobson		1		1
Tulsa Oil Co.			1	1
Turman Oil Co.	1	3	4	8
Turner & Swift		1		1
C. E. Upchurch & Allen		1	1	2
Graddy H. Vaughn et al			1	1
W. D. Walton et al			1	1
Ward Oil Corp.			2	2
Ward Oil Corp. Elliott-Johnson			1	1
T. A. Warren et al		1		1
Weaver-Crim Corp.	1		2	3
Westexas-Oil & Roy Corp			1	1
Westheimer-Daube-Cox & Hamon			2	2
Woodley Petroleum Co.		1	1	2
Total	29	99	186	314
Total previous week	27	103	180	310

GREGG COUNTY OPERATIONS

Operator—	Lcns.	Derricks & Rigs	Active Tests	Total
W. M. Angle & Brytex Oil Co.		1		1
J. L. Anderson et al		1		1
Arkansas Fuel Oil Co	1	1	2	4
Arkansas-Yount-Lee Oil Co.		1		1
P. P. Ash et al		1		1
Badgett-Cooper Drl. Co.		1		1
Beeler & Beeler		1		1
Blackwell O&G Co. (Mullendore & Beery)			1	1
Claude Bell & R. A. Graddy, Inc.			1	1
Bridwell et al		1		1
Bert L. Brookins et al		1		1
D. H. Byrd-Gulf-Humble et al		1		1
Capitol Prod. Co.		1		1
Earl P. Carley & Blair	1			1
Cranfill-Reynolds Co.	1	1	1	3
Crump & Hanagan	1		1	2
Daisy Oil & Gas Co			1	1
Danciger Oil & Refg. Co	1		1	2
Davis & Russell			1	1
Daniel & Tom C. Patten			1	1
Tom David (was Leonard Pet. Co.)		1		1
R. H. Dearing & Sons	1			1
Joe DeGlazier (F. & M. Drl. Co.)		1		1
Harry W. Elliott et al		1		1
E. E. Eslick & Little			2	2
F. H. E. Oil Co		1		1
Flanagan Prod. Co.			1	1
L. S. Flannery et al			1	1
R. L. Foree-Shasta Oil Co			1	1
Frank Foster-East Texas Refg. Co.		1		1
Frank Foster & Rhodes		1		1
A. N. Gibson & Adams	1		1	2
Gulf Prod. Co.	1			1
Heep Oil Corp., Houston Oil Co.			1	1
Herden & Woodward		1		1
Ed. B. Hopkins & A. R. Byrd, Jr.			1	1
Houston Oil Co.		1		1
Pat Hudson & Geo. McCamey		1		1
T. D. Humphreys et al				
Humble Oil & Refg. Co		1		1
S. F. Hurlburt & Brown			1	1
Hunter-Rowe et al			1	1
R. A. Irwin et al	1			1
C. C. Julian Oil & Royalty Co.			1	1
Kilgore-Central Oil Co.		1		1
H. P. Key et al		1		1
Kinsey & Trimble		1		1
Marlan Oil Synd.			1	1
Mazda Oil Corp.			1	1
Mid-Kansas O&G Co.		1	2	3
Magnolia Pet. Co.		1	1	2
Meek & King		1		1
Alfred McMillan et al			1	1
H. S. Moss et al			1	1
Norton & Holmes		1		1
John W. Olvey et al		1		1
Oriental Oil Co.	1		1	2
Pace et al		1		1
Pace Pet. Corp.		1		1
A. W. Phillips Oil Operators		1		1
Primrose Ref. Co.-Penn-Worth Oil Prod. Co.			1	1
Pilot Oil Co.	1			1
Republic Prod. Co.		1	1	2
C. Rosenfield (Rose Oil Corp)			1	1
Roeser & Pendleton, Inc. et al		1		1
Robert et al		1		1
Ross et al		1		1
Jim Rush (Trinity Drl. Co.)		1		1
Selby Oil & Gas Co.		1		1

Operator—	Lens.	Derricks & Rigs	Active Tests	Total
Shell Petroleum Corpn.	.	2	2	
Eddie Showers & W. A. Moncrief	.	1	1	1
Sinclair Oil & G. Co.	.	.	1	1
Skipper Oil Co. & Lacey	1	.	.	1
J. R. Smith et al.	.	1	.	1
Stanolind O&G-Simms Oil Co.	2	.	1	3
Sun Oil Co.	.	1	.	1
Sutton & Daniels	.	1	1	2
Sutton et al	.	.	1	1
Sultan Oil Co.	.	1	.	1

Operator—	Lens.	Derricks & Rigs	Active Tests	Total
Sultan Oil Co. & McDaniel.	.	1	.	1
Sutton et al	.	1	.	1
T. P. Coal & Oil Co.	1	.	.	1
Texas Unity Oil Co.	2	1	1	4
C. S. Thomas et al	.	1	.	1
Sam K. Vierson et al.	.	1	.	1
Paul Vitek et al.	.	.	1	1
W. N. Wages et al	.	1	.	1
R. B. Whittle & Claude Kavenaugh No. 2, Inc.	.	1	.	1
W. L. Wollett (was P. D. Prince)	.	.	1	1

Operator—	Lens.	Derricks & Rigs	Active Tests	Total
J. A. Wier, et al	.	1	.	1
K. Z. Werby & McMinn et al	.	1	1	2
Pat J. White et al	.	.	1	1
Wise & Jackson	1	1	.	2
Woodley Pet. Co.	.	1	.	1
Yount-Lee Oil Co.	2	1	2	5
Total	20	56	45	121
Total previous week	13	51	43	107
Total both counties	49	155	231	435
Total previous week—both counties	40	154	223	417

Gregg County Producers—Longview Field

	Elev.	Pecan Chalk	Austin Chalk	Producing Horizon	Total Depth	Date Comp.	Initial Prod.	Daily Potential flow by 11/16-in gauge
Alco Royalty Corp.'s								
J. R. Castleberry 1	...	2274-2813	3383-3440	....-....	3519	4- 7-31	D&A (Top Georgetown 3492 ft).	
Arkansas Fuel Oil Co.'s								
P. D. Harrison 1	...	2455-2964	....-....	3540-3560	3560	4- 6-31	18,000	3192
W. L. Hestland 1	...	2400-2925	3565-3605	3606-....	3608		Cemented cas 3590 ft.	
F. K. Lathrop 1-B	414	2578-2955	3534-....	3588-3607	3608	3-26-31	12,000	2064
F. K. Lathrop 1-C	...	2414-2982	....-....	3600-3612	3678	4-10-31	12,000	2496
R. S. McKinley 1	395	2446-2958	3535-3556	3578-3600	3600	3-12-31	15,000	2568
Ark. Fuel & Yount-Lee Oil Co.'s								
F. K. Lathrop 1-A	401	2458-2870	3528-3554	3569-3587	3587	1-26-31	12,000	2280
F. K. Lathrop 2-A	420	2488-2984	....-....	3590-3613	3613	3-28-31	15,000	2340
F. K. Lathrop 3-A	415	2415-2978	3530-....	3583-3605	3605	3-27-31	15,000	2400
Blackwell O. & G. Co.'s								
M. Magrill 1	...	2390-2948	....-....	3661-3673	3674			Testing
Joe Crump & Hanagan's								
Nettleton-Caldwell 1	...	2355-2880	3430-3478	3484-....	3505			Testing
Danciger O. & R. Co.'s								
C. C. Clemmons 1	...	2440-2930	3545-3599	3600-....	3602			Cemented Casing
Ernest E. Eslick & Little's								
Springhill Church 1	411	2441-2938	3547-3578	3597-3621	3623	3-25-31	7,500	2184
W. R. Nicholson 1	396	2476-2918	3600-....	3659-....	3668			Shutdown orders
F. R. Foster-East Texas Ref. Co.'s								
Fisher-Rodden 1	333	2320-2882	3464-3494	....-3534	3542	3-13-31	3,000	1008
Fisher-Rodden 2	...	2325-2897	3430-3485	3513-3545	3545	4-10-31	7,500	2052
Mrs. Mamie Hammonds et al's								
J. M. Hamby 1	376	2507-3015	3600-....	....-....	3724	Testing (Top Georgtown 3685 ft).		
O. L. Hickman et al's								
Maude Smith 1	373	2300-2925	3476-3514	....-....	3580	3-21-31	D&A (Top Georgetown 3555 ft).	
T. D. Humphrey et al's								
A. F. McAbee 1	...	2370-2902	3468-....	....-....	3578	4-12-31	D&A (Top Georgetown 3538 ft).	
S. F. Hurlburt & Burton's								
A. J. Page 1	438	2440-3012	....-3658	....-....	3690	3-22-31	D&A (Top Georgetown 3667 ft).	
Magnolia Pet. Co.'s								
B. E. Rodden 1	417	2411-2955	....-....	3597-3616	3616	3-15-31	15,000	2208
B. E. Rodden 2	409	2485-2938	3540-....	3587-3603	3603	4- 1-31	12,000	1920
B. E. Rodden 3	...	2512-2935	3473-3546	3546-3568	3568	4-14-31	12,000	2256
B. E. Rodden 4	...	2515-2935	3520-3565	3568-3595	3595	4-11-31	15,000	2208
B. E. Rodden 5	...	2411-2969	3530-3565	3596-3612	3616	4-17-31	12,000	2148
Alfred McMillan et al's								
J. R. Fenton 1	...	2422-2972	3558-3583	....-....	3584		Cemented cas 3578 ft.	
K. E. Merren-Miller-Van Horn's								
Maude Smith 1	377	2373-2941	3415-....	....-....	3605	3-19-31	D&A (Top Georgetown 3550 ft).	
H. S. Moss et al's								
G. B. Tenery 1	...	2455-2940	3519-....	....-....	3550		Cemented cas.	
Navarro Oil Co. et al's								
G. B. Tenery 1	419	2585-2981	3564-3581	3587-3601	3603	3-18-31	3,000	250
Pilot Oil Co.'s								
McGrede 1	413	2412-3006	3566-....	3592-....	3681	4-16-31	8,000	*1800
W. C. Ray Drilling Co.'s								
Maude Smith 1	374	2339-2938	3458-3511	....-....	3570	3-21-31	D&A (Top Georgetown 3546 ft).	
Republic Prod. Co.'s								
Fisher-Rodden 1	...	2293-2848	3388-....	3449-....	3455		Cemented cas 3449 ft.	
Roeser-Pendleton, Inc. et al's								
B. E. Rodden 1	408	2405-2898	3531-3570	3575-3592	3592	3-12-31	15,000	2088
B. E. Rodden 2	...	2370-2963	3509-....	3558-3581	3581	4- 9-31	8,000	2360
Rush-G. E. Hubbard & Simms Oil Co.'s								
Tenery 1	413	2462-3006	3520-3536	3574-3594	3594	4-10-31	10,000	1968
Selby Oil & Gas Co.'s								
P. J. Snavely 1	273	2488-....	3464-3508	3529-3583	3583	4- 7-31	20,000	3120
Skipper Oil Co.'s								
Thadd Snoddy 1	387	2400-2913	3545-3572	3573-3612	3612	4-12-13	12,000	2640
Skipper Oil Co. & Lacy's								
Maggie Magrill 1	419	2448-2969	3579-....	3644-3650	3658	4-14-31	15,000	*3192
Stanolind O. & G. Co.-Simms Oil Co.'s								
G. B. Tenery 1	398	2550-3008	3545-....	3560-3580	3580	3-29-31	12,000	2232
Sultan Oil Co.'s								
S. F. Thrasher 1	328	2304-2910	3496-3510	3534-3564	3564	4- 7-31	15,000	*2400
Sultan Oil Co. & McDaniels'								
Springhill Church 1	...	2435-2982	3555-....	....-....	3578			Cemented cas.
Tidal Oil Co.'s								
F. K. Lathrop 1	430	2465-3075	....-....	3603-....	3656	4- 8-31	3,000	1632
Tidal-J. K. Wadley & Jim Evans'								
A. A. Castleberry 1	416	2430-2975	3545-....	....-....	3614	4- 7-31	D&A (Top Georgetown 3612 ft).	
J. R. Travis et al's								
A. G. Morton 1	...	2490-2840	2435-3517	....-....	3700	3-31-31	D&A (Top Georgetown 3553 ft).	
W. L. Wollett et al's								
Harley 1	...	2320-2966	3493-....	....-....	3546		Cemented cas 3501 ft.	
Ben Youngblood et al's								
Wm. Lamb 1	401	2417-2915	3483-....	....-....	3619	4-2 -31	D&A (Top Georgetown 3534 ft).	
Yount-Lee Oil Co.'s								
J. D. Davis 1	404	2359-2983	3482-3560	3596-3606	3530	4-2 -31	7,500	2400
F. K. Lathrop 1-B	...	2407-....	3540-....	3560-....	3663			Cemented cas.
F. K. Lathrop 2-B	...	2441-3020	3540-....	3592-....	3595			Cemented cas.
J. C. McKinley 1	...	2411-2999	3526-3571	3573-3600	3600	4-15-31	15,000	2712

*Indicates potential production estimated.

EAST TEXAS HIGHLIGHTS

By H. H. KING
Staff Representative

Stanolind May Build Line

Stanolind Pipe Line Company is expected to be the next major carrier to invade the East Texas district with an extension line, as Stanolind Oil & Gas Company has lately developed a large potential production in the Kilgore field and also on a 50-50 basis with Simms Oil Company in Gregg County. Stanolind Crude Oil Purchasing Company is producing and purchasing about 20,000 barrels of oil daily in the area, using facilities of other companies for making tank car loadings, which are consigned to the Destrehan, Louisiana, refinery of Mexican Petroleum Corporation, an affiliated concern, and also to Baytown, Texas, for coastwise movement. A rack site has been acquired in the Kilgore field, but completion has been delayed. It is probable that Stanolind Pipe Line Company will build from the district to Mexia, where connection can be made with its Great Lakes-to-Gulf Coast trunk line system, using about 110 miles of 10-inch pipe in making the hook-up. Stanolind interests have about 3,500,000 barrels of idle steel storage facilities in the Mexia district that could be used to an advantage in accumulating East Texas crude while attractive prices prevail.

Second Rack for Illinois

A second tank car rack for Illinois Pipe Line Company, transportation unit for Mid-Kansas Oil & Gas Company, both subsidiaries of Ohio Oil Company, is being erected. A rack was recently completed on the I. & G. N. Railroad at Arp to take care of production held by Mid-Kansas Oil & Gas Company in the Joiner field and a 50-car capacity rack is being built on the Texas & Pacific between Camps and Willow Springs, and on the Nettleton lease that must be drilled by the company shortly.

It is understood that the State Game Fish and Oyster Commission is contemplating the use of injunction proceedings to prevent the polution of East Texas streams, including the rivers, the beds of which the legislature proposes to lease for drilling.

Sinclair Working on Tank Farm

Operation of Sinclair-Texas Pipe Line Company's proposed 12-inch outlet for East Texas will not begin until about middle June, and in the meantime Sinclair interests are starting work on one of the largest crude tank farms in the district to accumulate storage oil pending completion of the line. Announcement was made last week in regard to Sinclair interests having contracted for joint movement of East Texas crude to Gulf Coast and to refineries in Mid-Continent and middle west via the trunk line system of Prairie Pipe Line Company. Sinclair-Texas Pipe Line Company has purchased a pump station and tank farm site in the southeast corner of Smith County. About 85 miles of 12-inch welded line will be used in connecting with Prairie Pipe Line Company's system at Teague station, near Mexia.

Sinclair-Texas Pipe Line Company will have gathering lines extending from the above station site to the Joiner, Kilgore and Longview fields. The company is erecting six 80,000-barrel steel tanks as the initial step of a storage program, but will also continue to make tank car shipments of crude from racks now being operated in the Joiner and Kilgore fields. Pipe for the big line is being shipped by water from eastern mills, and also for about 25 miles of line to be needed in building from Sinclair Refining Company's refinery at Sinco, near Houston, to Huffman station, Harris County, where connection will be made with the eight-inch looped line of Pure Oil Pipe Line Company of Texas, a fully owned subsidiary of Prairie Pipe Line Company.

Central Pipe Line In Service

Central Pipe Line Company has placed its six-inch pipe line system, which extends from the Joiner field to a rack and refinery at Overton, in regular service, and will have facilities to handle up to 15,000 barrels daily. Leroy G. Welsh, Fort Worth, is head of this concern, and other officials include: H. F. Gibson, F. Kirk Johnson and F. H. Murphy, all of Fort Worth. The company located its field station near the center of the Daisy Bradford 75-acre tract, south-western part of the Juan Ximines Survey, and used Victaulic couplings on the main line. A 25-car capacity rack has been completed on the Bacon 15-acre site, Thos. C. Lloyd Survey, being on the west side of the I. & G.-N. Railroad and just north of Overton. Arrow Refining Company, an affiliated concern, is moving in materials to erect a 2500-barrel daily capacity topping plant, which will be south of the rack. John T. Gillen, formerly of Houston, is superintendent of plant construction work.

Cranfill-Reynolds Abandons Rack Plans

Owing to congestion on the Missouri Pacific System in handling tank car shipments of East Texas crude to Coastal points, Cranfill-Reynolds Company has temporarily abandoned plans to erect a 50-car rack at Willow Springs, Gregg County, but will install the rack on the Santa Fe Railroad a short distance southeast of Longview. Both railroads have a 11-cent tariff per 100 pounds to the Gulf Coast, but the Santa Fe Railroad has only the East Texas Refining Company making oil shipments at present.

East Texas Second Plant Ready

East Texas Refining Company was scheduled to start charging crude to stills in its second East Texas topping plant early this week as result of having completed its plant at Longview. Warming up of the equipment began late last week. This company has a plant at Friars Switch, located northeast of the Joiner field, that has been operating for nearly a month. Both are rated at 6000 barrels daily each, and are supplied with controlled oil and outside purchases. East Texas Refining Company has enlarged its Longview rack to 76-car capacity, and is at work on a six-inch line from a point near Camps, Gregg County, to the Kilgore field in order to take care of oil to be produced by the company's Darcus Wills 80-acre lease, Wm. P. Chism Survey.

Shell Becomes East Texas Purchaser

Shell Petroleum Corporation has joined the ranks of crude purchasers in East Texas even though the company recently has displayed a desire to withdraw from the district by selling 660 acres of proven leases in the Longview field and one completed well to Yount-Lee Oil Company for $1,225,000, including $500,000 cash, and offering full or part interests in its numerous leases in the remainder of Gregg and Rusk Counties. The above deal did not include Shell Petroleum Corporation's gathering system in the Longview field and a 30-car rack at Willow Springs, and the latter is now to be utilized in handling oil to be pur-

chased on contract from Joe Crump and Managan's well on the Caldwell-Nettleton 77-acre lease, John Ruddle Survey. Shell Petroleum Corporation will move this purchased oil by tank cars to its refinery near Houston, with a rate of 11 cents per 100 pounds applying. Shell Petroleum Corporation is completing construction work on a 50-car rack, located on the I. & G.-N. Railroad and on the north edge of Kilgore townsite to handle controlled oil in the Kilgore field.

MacMillian Building Refinery

Macmillian Petroleum Corporation of Los Angeles, and Borger, Texas, is pushing construction work on its 7000-barrel daily capacity skimming plant, located on the Mrs. M. Smith farm, between Willow Springs and Camps, and on the south side of the Texas & Pacific Railroad, which is installing a 40-car rack for the company. Slack Petroleum Company, Tulsa, is at work on a 2500-barrel skimming plant, located a short distance to the west of the above plant and on the north side of the railroad. This smaller plant will have an eight-car rack.

Three Trunk Lines Operating

Three major trunk line systems are now transporting crude from the Rusk-Gregg County district as result of Gulf Pipe Line Company having completed and filled its eight-inch carrier that extends from the Kilgore field through the western part of the Joiner field, thence in a southwestern direction to connect with the company's Mid-Continent system in eastern Smith County. This new transportation outlet is rated at about 30,000 barrels daily capacity, and will not handle oil other than that produced from leases held by Gulf Production Company and its associates—Devonian Oil Company, E. L. Smith Oil Company and H. R. Smith.

Tyler Pipe Line to Be Ready This Week

Tyler Pipe Line Company began filling its pipe line unit with crude late last week, and plans are to have the main station, located several miles north of Overton, in readiness to pump oil to Tyler early this week. This company has six-inch lines extending from the Overton station to the Joiner and Kilgore fields, eight-inch pipe was used in building from the Overton station to Tyler, a distance of about 20 miles, and the capacity of the line is rated at from 30,000 to 35,000 barrels daily. The company has a 60-car capacity rack on the Cotton Belt Railroad that will permit tank car loadings on oil sales to be made. It will also supply the crude requirements of Taylor Refining Company's 15,000-barrel capacity topping plant, which is to be completed by middle May on an adjoining site from the Tyler rack.

Sun Will Build Loading Rack

Sun Oil Company is to erect a 30-car rack on the east side of the I. & G.-N. Railroad and on the north portion of the S. S. Laird-Bean 450-acre farm, Mary Van Winkle Survey, being on the south edge of Kilgore. This rack site was acquired early in April from Shell Petroleum Corporation. Sun Oil Company has arranged for Panola Pipe Line Corporation to transport and load out in tank cars for the time being all oil produced and purchased by the former in the Joiner field. Sun Oil Company is laying 2800 feet four-inch pipe line from its Selman well to connect with the Panola Pipe Line Corporation. The latter recently sold Sun Oil Company 100,000 barrels Joiner crude to be shipped to Gulf Coast or coastwise movement.

▼ NEW MEXICO - ROCKY MOUNTAIN AREA ▼

Find New Gas Production In Moffat County, Colorado

Denver.—Mountain Fuel Supply Company (Ohio Oil Company) brought in a new gas field in Moffat County, northern Colorado this week with the discovery of 34,188,000 cubic feet of gas with a rock pressure of 630 pounds to the square inch at a total depth of 2152 feet in an unidentified sand. Structure is 20 miles east of the Hiawatha dome development, and is about the same distance south of the Wyoming state line. Well stood shut down at 2145 feet through the winter with 13-inch casing run and cemented there. There was no evidence of gas whatever, and discovery upon seven feet of deeper drilling came as a complete surprise to the company. The gas will be used as an additional supply for the company's line from southwestern Wyoming and northwestern Colorado structures to Utah and Idaho cities and towns.

Preparing for Deep Test In Greasewood Dome Area

Denver, Colo.—Platte Valley Petroleum Company has contracted with Reiter-Foster Oil Company to drill test on the Johnson lease, on Greasewood dome, in Weld County, Colorado. Several of the major operators in this territory were very much interested in contracting with Platte Valley Petroleum Company for the test. Reiter-Foster Oil Company is moving in rotary equipment for a test to be drilled to 7200 feet if necessary to test the Dakota series. If the well proves commercial, the contract calls for two more to be drilled. When all three are completed, Reiter-Foster Oil Company will be given a half interest in 1200 acres and the cost of the wells out of production. It also has an option to purchase the oil. Discovery well, which continues to produce about 350 barrels per day, is not involved in the deal. Continental Oil Company is purchasing that crude for its Denver refinery.

Lewistown, Mont.—Lewistown Natural Gas Company's second test for gas on the Armells structure, near Lewistown, has proved a disappointment, it having found water at 1625 feet. It is to be abandoned and another test is to be started. The company's first test on the structure produced enough gas to be used for fuel for the second well. Company hopes to develop a sufficient supply of gas to provide the city of Lewistown with its fuel requirements.

Billings, Mont.—The Rocky Mountain region's deepest test, that of Resolute Oil Company on the Badger Basin structure in northern Wyoming, is again drilling deeper, the last total depth being below 8430 feet. It is presumed to be within a very short distance of the top of the second Wall Creek sand, and oil and gas showings are reported to be increasing. Oil tests 58 gravity and is of an excellent refining grade. It sells to farmers and ranchers at the well for $4 a barrel, in comparison with the low prices for crude everywhere else.

Gulf Coast Field Developments

JACK LOGAN, ***Staff Representative, Houston, Texas***

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New Producing Horizon Is Found In Sorrento Field

Houston.—Completion during the past week of Gulf Refining Company's United Land Company 19 in the Sorrento field, Ascension Parish, marks the discovery of a deep producing sand for that area. The well was brought in for an initial production of 300 barrels from two separate sands at total depth of 4351 feet. Production of the well is flowing through one-quarter-inch choke, registering 1500 pounds pressure. Gravity of the oil is 31 degrees.

This completion is located on the southeast flank of the dome, 3750 feet north and 1360 feet west of the southeast corner of Section 15-10s-4e. Heretofore all the producers of the field have been located on the top of the dome and have been producing from the 1600-foot level. Daily average production of the field has been approximately 500 barrels of 24 gravity oil.

Location of this well on the southeast flank of the field was probably the result of findings in the drilling of United Land Company 17, which struck an oil show at 4880-94 feet.

United Land Company 19 struck top of the cap rock at 4723 feet and top of the salt at 4848 and drilled into it to a total depth of 4874 feet before plugging back to the two sands previously encountered at 4328-35 feet and 4345-51 feet. Two joints of 6⅝-inch screen were set at 4351 feet.

The Sorrento field has the distinction of being the first productive salt dome field east of the Mississippi River. Twenty-two wells have been drilled in this field, including the well just completed, and only six of these have been completed as producers. Three wildcats in the vicinity were drilled by Acme Producing Company, John J. Finnorn, and Triumph Oil Corporation. All the others have been drilled by Gulf Refining Company of Louisiana.

Location Made for Second Wildcat In Gueydan Area

Houston.—Pure Oil Company has signified its intention of trying to prove seismic indications in the Gueydan area, Vermilion Parish, by the location of its second test there, Alliance Trust Company 1, 2600 feet north and 300 feet east of the southwest corner of Section 34-11s-1w.

The first test, Southwest Louisiana Land Company 1, was abandoned the latter part of March, this year, at 6594 feet. The location of the second test is north of the first well.

Three other locations complete the list of new operations started in South Louisiana during the past week. Yount-Lee Oil Company made location for Miller 2 on the northwest side of the Lockport field, Calcasieu Parish. The Starks field of the same parish received another location in Gulf Refining Company's Lutcher-Moore 27. The Texas Company will make another attempt to find further production in the Dog Lake field in locating its Dog Lake 6, Terrebonne Parish. Four wells have been drilled since the first and discovery well of the Dog Lake field was drilled but none of them were productive.

Two Terrebonne Parish Locations Are Abandoned

Houston.—Active operations of The Texas Company in Terrebonne Parish have been confined to five wells with the abandonment during the past week of two of its locations. One of these, State Caillou Island 4, had been rigged up the preceding week and was preparing to spud in. Bay St. Elaine 6 was the other location abandoned. No work had been done toward preparing this location for operations.

The only production found in the Caillou Island dome has been from the discovery well, Caillou Island 2, which is producing from 3279 feet. Production in the Bay St. Elaine field was from shallow gas sand at the 700-foot level. An attempt is being made to locate oil production in the Bay St. Elaine field in The Texas Company's test, Bay St. Elaine 1, which is down to 4750 feet in sand and lime.

Operations in the Lake Barre field include Lake Barre 6 which is rigging up and Lake Barre 13, preparing to build derrick. Lake Barre 8 hit rock at 6713 feet and drilled into it to 6790 feet and is now standing and will probably be abandoned. Four Isle 5, on Four Isle Bayou dome, is drilling in cap rock at 560 feet.

One Well Completed During Past Week at Barbers Hill

Houston.—There was only one completion in Barbers Hill field during the past week, as compared with five for the preceeding week. Yount-Lee Oil Company completed O. K. Winfree 2, on the west side of the field, for an initial of 1020 barrels at 5493 feet. The well was brought in flowing through three-eighths-inch choke with pressure of 660 pounds. Gravity of the oil is 32 degrees.

Other operations in the field promise a completion for the coming week in Humphreys Corporation's Winfree 1, on the west side of the dome. This test cored an oil sand at 5340 feet and has set casing at that depth. Winfree 2 of the same company is drilling in shale and lime at 4890 feet, while Winfree 3 is down 5040 feet in lime. The Texas Company's Winfree 2 and 3, offset wells to Humphreys Corporation's Winfree tests, are going on down and will likely be into the productive sands within the next two weeks. Winfree 2 is drilling in sand and lime at 4370 feet and Winfree 3, is down 4930 feet in shale and lime.

Additional activities include a new location by the Humphreys Corporation, Anna Davis 1, located 475 feet south of the north line and 71 feet west of the east line of Strip 6 of the Henry Griffith League; preparations by the Gulf Production Company for working-over its Wilburn 1; and a test of the Sun Oil Company which was spudded in last week. This well, O. K. Winfree 2, is drilling in clay at 45 feet. It is located 415 feet south of Sun Oil Company's Winfree 1 and 50 feet from the west line of the tract as an east offset to Sinclair Oil & Gas Company's Smith 3.

Louisiana Gulf Coast Good For Three Wells During Week

Houston. — Indications during the past week's drilling point to the probable completion of three wells for the Louisiana Gulf Coast with the possibility of a fourth well being brought in for production. Union Sulphur Company's Martha Moss 2, in the Lockport field, Calcasieu Parish, struck an oil sand at 6513 feet and set 6⅝-inch casing at 6503 feet. Production on the west side of the field comes from the 6600-foot level, thus giving indication that the well has a good chance for making a producer.

The Texas Company's Leesville 2, the discovery well of the Leesville dome in La Fourche Parish, is being worked over and has struck a favorable sand at 3600 feet. The well was formerly completed at 3038 feet for initial production of 480 barrels, but a steady decline of production caused the well to be drilled deeper with the hope that another sand could be located. Botney Bay Lumber Company 9 of The Texas Company made a small amount of oil at 3399 feet and will likely be put on the pump within the next few days. This test is located in the Port Barre field, St. Landry Parish.

Standard Oil Company's Louisiana Gay 1, owned jointly with Gulf Production Company, bailed practically pure oil at 4178 feet. This oil tested 30 degrees gravity and 80 degrees temperature.

Pierce Junction Field Well Good for 360 Barrels Initial

Houston.—Tilton & Perot's Gulf Jones Fee 1, a northeast offset to Bryan, Ward & Kepley's Prudent 1, in the Pierce Junction field was completed late last week for an initial production of 360 barrels at 3807 feet. One joint of screen was set on bottom of the well.

This producer is located 220 feet west of the east line and in the center, north and south, of Lot 36 of the Jones 50-acre tract, of the B. B. B. & C. Railroad Survey, Number 1028.

Production on the northwest side of the field comes from three horizons: 3300 feet, 3750 feet and 4300 feet. The average gravity of oil is 28 degrees for the first level, 30 degrees for the second level and 33 degrees for the deepest producing level.

Two other wells on the northwest flank of the field were completed as work-overs. Gulf Production Company's Manchester 1 was completed at 4800 feet for 1100 barrels initial production. This well was originally completed last September at the 3700-foot level for an initial output of 500 barrels of 31 degree gravity oil. Taylor 32, also a work-over well of Gulf Production Company, was completed at 4750 feet for 350 barrels daily.

Dallas, Texas.—Sun Oil Company has extended the Clay Creek field, Washington County, a short distance to the east with a new oil and gas horizon as result of its Mrs. B. R. Clay 5 having tested 5,000,000 cubic feet of gas and a heavy flow of 20.9 gravity oil on drill stem test at 1717-46 feet. A string of seven-inch casing is to be cemented above the oil and gas horizon before attempting to make a production gauge of the oil flow. Four dry holes of a much greater depth had been drilled on the Clay 757.75-acre farm by Sun Oil Company, all being located on the north, east and south sides of the tract. The average producing horizon in the Clay Creek field, which is entirely controlled by Sun Oil Company, is about 1250 feet. The company is producing about 2400 barrels daily from 25 wells on regular production.

▼ MISSISSIPPI ▼

Gulf Refining Company Plans Tests for Gas In Mississippi

Jackson, Miss.—An escrow agreement between Gulf Refining Company and Finkbine Lumber Company, owner of much acreage in Central Mississippi, and operating a large sawmill at D'Lo, 30 miles south of here, has been made and placed in a local bank, whereby the oil company agrees to do geophysical and geological work and such other tests for minerals as desired, on approximately 20,000 acres of Finkbine Lumber Company's acreage in Simpson and south Rankin Counties. The work is to be completed by January 1, 1932. This block is located in Townships 2n-4 and 5e, Simpson County, and Townships 3n and 4n-5e, Rankin County.

If Southern Natural Gas Corporation will furnish the funds for the tests, and negotiations to that end are now under way, Amory Petroleum Corporation will drill four wells in the Amory field of Monroe County, Northeast Mississippi, where a 5,598,000 cubic foot gasser, the largest of the four gassers in the field, was recently completed. Gulf Refining Company also recently acquired all of Section 16-13s-17w and is expected to do some drilling there. Ohio Oil Company has over 100,000 acres in and around the Amory field. The latest gasser was Amory Petroleum Corporation's Harris 1, NW NE Section 18-13s-17w.

Company Organized to Build Gas Pipe Line to Hattiesburg

Jackson, Miss.—Another development in connection with a proposed eight-inch gas line from Jackson to Hattiesburg, Mississippi, 90 miles south of here, occurred during the past week when Public Service Corporation of Mississippi, was chartered. Incorporators are Frank K. McGehee, B. V. Kincaid, and Harry B. Barnhart of Dallas, Texas. The firm is capitalized at 250,000 shares of common of no par value and 25,000 shares of preferred of no par value. This firm, it is reported, is ready to furnish $100,000 bond with Hattiesburg officials to take over the gas franchise there. The franchise requires this size line to be completed from Jackson to the gates of Hattiesburg by the holder of such franchises within 120 working days. Meanwhile it is reported that a local independent operating company here has been re-financed by Hattiesburg capital for securing gas production in the Jackson field, it already owns acreage here.

Ventura, Calif.—Associated Oil Company continued its record of completions in the Ventura Avenue field during the week, finishing Lloyd 85 with an initial production of 2000 barrels at 7375 feet. This well was completed at about the average depth of wells finished during the past two years and no effort was made to carry the test to record levels. The flow showed a cut of 19 per cent but the average production will show a smaller amount of water. The gas production was 2,000,000 cubic feet, maintaining an excellent gas-oil ratio for the field.

The company's Lloyd 57, record deep test, is drilling ahead at 8775 feet, the formation running to rich oil sand. This well has placed a new valuation on the Ventura Avenue field. Rich oil sand was found at 8100 feet, following the coring of about 1000 feet of zone which showed streaks of questionable sand. The gas pressure has increased steadily and is now so high that it is difficult to making further progress.

South Texas Field Developments

EARL POST, ***Staff Representative, San Antonio, Texas***

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Northern San Patricio County Is Assured New Gas Field

San Antonio, Texas.—The assurance of a new gas field in northern San Patricio County, midway between the Refugio and White Point fields, attracts a great deal of attention to that section of the Texas Gulf Coast. The strike is of special importance, inasmuch as it undoubtedly will attract considerable wildcatting along the line of these fields.

Aransas Oil Company's Welder 1, five miles northwest of Sinton and near the heart of the 55,000-acre Welder ranch, has set casing at 3652 feet, preparatory to testing a sand at 3653-63 feet. On April 16, this well developed 825 pounds pressure of dry gas in four minutes on a one-fourth-inch choke, indicating a gasser of considerable size. The well has drilled through the sand to a sandy-shale formation at 3698 feet, where it tested salt water. It was then plugged back to the present depth for a drill stem test.

Map showing location of new prospective gas field in San Patricio County.

The exact location is 500 feet northeast of Houston Gulf Gas Company's Welder 3, which recently was abandoned at 5077 feet.

It is interesting to note (indicated on map) the position of the Aransas test and the other fields in the immediate sector. A curved line places the refugio, Welder, White Point and Saxet areas in position, which indicates that the producing trends may be the same series.

The Refugio field, in addition to its shallow gas horizons, is making oil at 3600-3700 feet, 5200 feet, 5700 feet, 6400 feet. The White Point field has one oil producer, Rachal 17, which has oil production at 4900 feet. There is oil at a shallower level. The Saxet field is producing oil and gas from sands at 4000 to 4250 feet, in addition to its gas at shallower levels. In every case these fields originally were gas districts, but later developed oil production at deeper horizons.

The Welder 1 gasser possibly opens the way for another oil field, judging from the successes in the other districts, which originally made oil.

The Welder ranch has received a rather extensive campaign, this test being the sixth to be drilled in the immediate area. Houston Gulf Gas Company drilled four tests, all on the Welder ranch, while Jacob, Buzzini and Pickett drilled one test on adjoining property, all of which had oil and gas showings of fair consequence at various levels.

The Welder 1, three miles southeast of the new gasser, was abandoned at 3012 feet. The Welder 2, also about three miles southeast, reported a slight gas show at 3111 feet, but was abandoned after drilling to 3372 feet. The Welder 3, located 500 feet southwest of the Aransas test, showed oil and salt water at 3650-56 feet, probably the same horizon as the gasser. It showed oil and gas at 4380 feet, oil at 4410 feet, gas at 4570 feet, oil and gas at 4610-20 feet, and oil at 4680 feet. The drill stem stuck at 5077 feet and the well was abandoned. The Welder 4, two miles almost due south of the Aransas well, cored oil at 4607-11 feet, oil at 4636-51 feet, oil and salt water at 5762 feet, oil and salt water at 5780 feet, and abandoned at 6026 feet. The showing at 5762 feet was interesting inasmuch as it showed 53 fourbles of fluid in the tester, one-fourth of which was said to be oil, the remainder salt water.

Jacob, Buzzini and Pickett's Baldwin 1, 3½ miles south of the new gas well, showed gas at 1902 feet, oil at 2476 feet, gas at 2480 feet, gas at 2563 feet, gas at 3370 feet, gas at 3811-20 feet. The latter sand was said to be heavily saturated. The well is now shut down at 4010 feet.

While gas is not considered of any great importance, it likely has an interesting meaning in this section of South Texas, due to the fact that the major oil strikes in this particular region of the Gulf Coast have followed openings of gas fields. This undoubtedly means that further drilling will be watched with close attention.

Latest Balcones Discovery Well to Be Drilled Deeper

San Antonio, Teaxs.—J. E. Mills and Chapman's McMahon 1, which recently opened a new pool on the Balcones fault zone, six miles southeast of Lockhart, in Caldwell County, is being deepened. The well originally was completed as a pumper rated at about 20 barrels daily from a total depth of 2185 feet. The drilling was resumed and a breakdown of the machinery was reported when the test reached 2295 feet. It is now shut down for repairs. Three-fourths of a mile northwest of the Mills test, Neuhaus and Camp have abandoned their J. B. Moore 1, William Clinton Survey, at 2515 feet in the Edwards lime.

Original Pettus Pool Given 1292-Foot East Extension

San Antonio, Texas.—The original pool at Pettus, Bee County, continues to receive its extensions. This time 1292 feet are added to the north of present east producing area.

United Production Company's Ray 36 is making 335 barrels of oil on a one-half-inch choke with 350 pounds working pressure from the sand at 3930-40 feet; 6⅝-inch casing was set at 3928 feet. The exact location of the new producer is 2165 feet along the southwest line of the T. Hanson Survey from the southwest corner, thence northeast 2422 feet at right angles from the southwest line. It is approximately one-fourth mile due north of the recently completed Ray 35, which gave the field a 1100-foot east extension the early part of April.

Hope of further extending the field to the east is evidenced by the fact that the United Production Company is preparing to spud in Ray 38, which is located 900 feet east and 10 degrees south of the Ray 35. This well, as those previously mentioned, is located in the T. Hanson Survey.

Between the main field and the Pettus townsite pool, the company is waiting on cement in Ray 33, which has 6⅝-inch casing on top of the sand cored at 3989 feet. This well is in the George A. Kerr Survey, 700 feet southwest of Ray 31, which recently connected production between the two pools.

In the Grayburg district, seven miles southwest of Pettus, Mineral Oil Company (Mauldin and Fisher) is swabbing and gas. It recently made 175 pounds pressure in 3½ minutes on drill stem test of a sand at 3537-40 feet. Casing is set at 3535 feet and the total depth is announced as 3544 A. J. Kimball 1. The well is showing considerable oil feet. Should the well be completed as a producer, it will be the first commercial production to be established in this particular sector, although considerable wildcatting has been carried on. Last summer, Grayburg Oil Company's Kimball 1 made a producer in the sand at 3545-55 feet, but later was abandoned when it developed salt water.

Mineral Oil Company's test is located 300 feet south and 21 degrees east of the Grayburg's test. Both wells are in the Stephin Winship Survey.

San Antonio, Texas.—Humble Oil & Refining Company's Denman 24-A, inside location at Darst Creek, Guadalupe County, has been completed for 600 barrels initial production at 2577 feet in the Edwards lime. The well has casing set at 2552 feet.

San Antonio, Texas.—Humble Oil & Refining Company is giving the Kohler pool, Duval County, a real deep test. Its Kohler 50, Survey 164, was drilling at 5968 feet at last reports. Nothing of interest has been reported since the well tested a sand at 1860-87 feet, which made oil and salt water on a drill stem test.

San Antonio, Texas.—Slick Estate's Riedel 1, W. C. Brown Survey, Goliad County, failed to make a producer in the regular producing horizon of the Slick area, around 4200 feet. It showed considerable saturation of both oil and gas in sand and shale from 4230-4300 feet, but could not be developed into a producer. It is now drilling at 4520 feet in hope of finding lower horizons. This well is 1830 feet southwest of the Slick Estate's Poetter 1, discovery test.

"You're Only Allowed Two"

Five good men with their backs to the wall. They are, left to right: O. Busby, head of Gulf Production Company's warehouse department in the Gulf Coast; Jack Bannister, sales manager, Gulf Coast Machine & Supply Company, Beaumont and Houston; Jon R. Long, general manager, Petroleum Equipment Company, Fort Worth; Horrace Kime, sales manager, Robinton Packer Company, Tulsa; and John A. Meyers, vice-president and sales manager, industrial division, American Hammered Piston Ring Company, Baltimore. This snapshot was taken on the ranch of Jon Long near Fredericksburgh, Gillispie County, Texas, during the last open season for deer. Somebody recently asked Meyers how many bucks he killed. "Well," he says, "You're only allowed two."

Nash's Petroleum Directory Publishes 1931 Edition

Nash's Petroleum Directory, P. O. Box No. 1136, Dallas, Texas, has released its 1931 issue that covers the names, addresses and department heads of the various companies and individuals engaged in the producing, refining, marketing and pipe line branches of the petroleum industry in the Southwest, Mountain States and California districts. The directory is issued annually, and the data contained therein is assembled by direct contact with each concern listed. An added feature of the latest copy is a resume of the oil and gas conservation laws of each of the states, and also the personnel of the conservation staff of each state. More than 20 pages of the directory is devoted to the listing of names and addresses of independent operators in the 13 states covered, while 11 pages of drilling contractors are listed, with personnel and mailing address included. Lloyd N. Nash, who has been identified with the oil industry a number of years, is head of the directory concern.

Zingery Oil Map Company has moved its general offices in Fort Worth to larger quarters, having taken space on the seventh floor of the Fair building. This concern has been specializing in East Texas maps in recent months.

Tulsa.—Ed Ligon, field representative for Oil Well Improvements Company of Tulsa, is spending several weeks in the East Texas fields in the interests of his company which manufactures a line of oil well specialties including high pressure casing heads and oil savers.

Louisiana--Arkansas Field Notes

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Expect Immediate Action on Smackover's 5000-Foot Test

Shreveport.—Rigging up is nearing completion and spudding of Lion Oil Refining Company and associates' 5000-foot test for the Smackover field in South Arkansas is expected soon. The test is Hayes A-9, SW NE Section 4-16-15, Union County.

Arkansas recorded no completions and no new locations during the week ending April 18. Marine Oil Company is ready to test another well in the Urbana district, six-inch casing having been cemented at 3574 feet at top of sand in Thompson B-4, Section 10-18-13, Union County, in the proven area, total depth being 3576 feet.

Hicksman and associates, drilling Hogg 1, Section 35-16-17, a Union County wildcat, which had recently been shut down in shale at 3328 feet, after topping the Graves sand at 2351 feet and the red beds at 2779 feet, are arranging to whipstock for a test of the Nacatosh at 2090 feet.

Sabine Parish Completion Links Up Three Zwolle Field Offshoots

Shreveport.—Jordan and Company, Incorporated's Louisiana Long Leaf 1, SE SW SE Section 3-7-11, Sabine Parish, which linked up three offshoots of the Zwolle southeast field, was completed at 10 p.m., Friday, April 17, flowing at an estimated rate of 500 barrels of oil from 2520 feet in chalk. The well had bailed dry at 2510 feet and arrangement had been made to abandon it but later it was decided to drill a few feet deeper. Six-inch casing was cemented at 2352 feet. The well Saturday, April 18, was flowing with packer and two-inch tubing in the hole.

This producer is three-fourths of a mile northeast of Sabine Production Company's Pearce 1, Section 10-7-11, the fartherest producer to the southeast, and 1¼ miles southeast of several producers in Section 4-7-11 and 1¾ miles southwest of Merritt, Trustee's Byrd 1, Section 1-7-11, a recent producer that extended the field two miles to the east.

Three miles east of nearest production Packard Oil Company's Davis 1, SW SW Section 8-7-10, bailed dry at 2658 feet, after topping Zwolle marl low at 2560 feet, elevation being 337 feet. The test will be deepened.

In Concordia Parish, East Central Louisiana, where a small commercial gasser was recently completed in the Jackson, United Gas Public Service Company abandoned Miller and Smith 1, Section 33-8n-9e, as a salt water hole at 1504 feet; 12½-inch surface casing was cemented at 159 feet.

In Tensas Parish, in the same general area, Seip and associates abandoned Folwer 1, Section 10-10-10e, as a dry hole at total depth of 1077 feet.

Deepening of a shallow test in the Elm Grove gas field, two new locations in the Richland Parish gas area, and starting of rigging up for a wildcat in west Carroll Parish, Northeast Louisiana, which has one of a quartet of gassers in the east Carroll Parish gas field, comprised the total of new activity started during the week. The west Carroll test is United Gas Public Service Company's Pioneer Cooperage 1, Section 29-21-9e.

Late last week United Gas Public Service Company's two latest tests in the Rodessa gas field of northwest Caddo Parish, were approaching the level of the upper Trinity, where the wet gas found in three other wells there is found. Emmons 1, NE SW Section 27-23-16, was drilling lime at 5411 feet and Fortner 1, an old test being deepened, was drilling the same formation at 5440 feet. It is in fractional Section 5-22-16. Gas Production in Rodessa is just below 5500 feet.

Pelican Natural Gas Company, drilling a 5500-foot test for the upper Trinity in Cooper 1, Section 29-18-14, just northwest of Shreveport's city limits, cemented 12½-inch casing at 1129 feet; 15½-inch surface casing had been cemented at 200 feet.

Smith County, Mississippi, Wildcat Test Is Abandoned

Jackson, Miss.—Still in the Wilcox at depth of 3519 feet, Pocahontas Natural Gas Company's Adams-Banks Lumber Company 1, NE SW SW Section 10-3n-7e, a wildcat test in Smith County, South Central Mississippi, was abandoned during the week ending April 18 in a water sand. Elevation was 425 feet. Ten-inch casing had been cemented at 441 feet and the test had shown 90 feet of fresh water in a drill stem test from 2732 to 2738 feet in eight minutes.

This was the only completion in Mississippi during the week. It was the first test drilled in Mississippi by this company, which is a subsidiary of Missouri-Kansas Pipe Line Company.

After having 1066 feet of Selma chalk the base of this formation was reached during the past week at a depth of 3703 feet, elevation being 221 feet in Gulf Refining Company's Box 1, NW SE Section 11-2n-15e, Clarke County, East Central Mississippi, the first test drilled in that area since a series of core drill tests were made there. Late in the week the test was coring green sand in the Eutaw at 3790 feet.

Love and associates' Muse 1, SE SE Section 32-7-4e, Rankin County, several miles northeast of the Jackson gas field, was shut down in the Wilcox at 3100 feet while the derrick was swaybraced and a heavier engine installed, and the owners indicated the test might be taken as deep as 5000 feet.

After being shut down for several weeks at 2075 feet Chester County Oil & Gas Company has resumed drilling in Montgomery 1, Decatur County, South Tennessee. Plans are now to go to 2500 feet. The test was drilling late last week in sandy lime at 2116 feet.

With three tests actively drilling in the Jackson gas field, J. T. Hester and associates' Ellis 1, NE SW Section 12-5-1e, Rankin County, in the southeast part of the field, topped Midway black shale at 2299 feet and cemented six-inch casing at 2374 feet. It was planned to drill in Sunday, April 19.

Dixie Petroleum Company's Pat Henry 1, SE NE Section 36-17-4e, Warren County, was spudded during the past week.

Completions for Past Week in U. S. Fields

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CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
SANTA FE SPRINGS—		
General Pet. Corp., Santa Fe 79B...	150	4675
VENTURA AVENUE—		
Associated Oil Co., Lloyd 85.....	2000	7375
Shell Oil Co., Taylor 67	900	4600
WEST COYOTE—		
Standard Oil Co., Murphy-Coyote 105	200	5785

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
BRADFORD FIELD—		
South Penn Oil Co., Melvin 293....	2	....
Healey Petroleum Corp., Quintruple 1	2	....
F. M. Boocks, Boocks 20	2	....
Jack & Co., Jack 1.....	2	....
B. L. Brinton, Quintruple 1.....	2	....
Andrus & McDowell, Bingham 321 tr 132	7	....
Wilson & Fitzgibbons, Bingham 368 tr 34	3	....
Freeman & Stuckel, Freeman 40....	7	....
TIOGA COUNTY—		
Home Gas Co., Fee 1.....	*	....
Oriskany Drilling Co., Deyer 1....	*	....
Trainer & Co., Bostwick 1.....	*	....
Iroquois Gas Co., Johnson 1.....	¶3½	....
Crescent Producers Co., Fee 1.....	¶3	....
Belmont Quadrangle Co., Losey 1..	¶3	....
WASHINGTON COUNTY—		
Union Gasoline Oil Corp., Sprows 1	*	....
Montgomery 2	9½	....
William Dillmyer & Co., Dunbar 1..	¶¼	2640
Carnegie Natural Gas Co., Moniger 1	*	4340
E. J. Young & Co., Faggett 3.....	*	2729
CENTER-MIDDLE FIELD—		
T. H. Kervin Jr., Kapp 1.....	3	....
Buck & Duke, D. C. & B. tr 2....	2	....
BUTLER COUNTY—		
J. C. Trees, Ziegler 1.....	¶1¼	....
William Peifer, Ramsey 1.....	2	....
CLARION-VENANGO—		
Rice & Thomas, Osmer 1.....	*	....
William Campbell, Scott 1.....	*	....
Fryburg Motor Co., Kapp 4.....	¶½	....

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
ALLEGANY COUNTY—		
Rider-Richmond Oil Co., Fee 19....	3	....
SCHUYLER COUNTY—		
Belmont Quadrangle Drlg. Corp., Denning 1	¶1	2083
STEUBEN COUNTY—		
Lamoka Power Co., Lamoka 2.....	¶6	....
Gordon 3	¶5	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
BOONE COUNTY—		
Godfrey L. Cabot In. Arbogast 8..	¶¼	....
Y. & O. Coal Co. 7.....	¶¼	....
G. S. Coon, Coon 1.....	¶¼	....
Coon 2	¶¼	....
Coon 3	¶¼	2237
Owens-Illinois Glass Co., Roberts 2	¶¼	....
CLAY COUNTY—		
The Pure Oil Co., Markle 2.....	½	1889
CALHOUN COUNTY—		
G. W. Hamilton & Co., Eisman 1..	¶¼	2224
GILMER COUNTY—		
Chartiers Oil Co., Huffman Hrs. 5..	¶¼	1368
KANAWHA COUNTY—		
Winifrede Co., Fee 11.....	¶½	....
Fee 12	¶¼	....
MINGO COUNTY—		
Wayne United Fuel & Gas Co., Vance 34	¶½	2650
Dixon Oil & Gas Co., Harvey 1....	¶¼	3125
MARSHALL COUNTY—		
Manufacturers Light & Heat Co., Archer 3463	¶½	2925
MARION COUNTY—		
Sutton Bros. Thomas 2.....	¶¼	3218
MONONGALIA COUNTY—		
Pittsburg & West Virginia Gas Co., Shuman 5078	¶1	2976

For Tabulation and Comparison
See Market Section

Company, Well and Location	Initial Production Bbls.	Depth
JACKSON COUNTY—		
Heck Oil Co, Click 1.....	¶¼	4042
TYLER COUNTY—		
Local Oil Co., George 1.....	*	1763

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
COLUMBIANA COUNTY—		
Miller Oil Co., Miller Bros. 1.....	¶¼	1060
MONROE COUNTY—		
Bert Robinson, Miracle 3.....	5	1253
James Wittenbrook & Co., Friday 7	1	1527
NOBLE COUNTY—		
Evert Brabacher, Colland 2.....	¶¼	1287
Berry & Rich, Rich 2.....	2	1864
WASHINGTON COUNTY—		
Dailey & Co., Schulthies 5.....	¶¼	1365
Twin Oak Oil Co., Lauer 13.....	3	330

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
ASHLAND COUNTY—		
Harmon & George, Horn 4.....	4	603
Robinson & Co., Mosher 1.....	*	....
ATHENS COUNTY—		
Ohio Fuel Gas Co., Fleming 2.....	¶¼	1445
GUERNSEY COUNTY—		
George Jewell & Co., Stewart 1	*	1784
HOCKING COUNTY—		
Henry Scholl & Co., Amerine Heirs 1	¶¼	2085
KNOX COUNTY—		
Upham Gas Co., White 2.....	¶½	3019
LORAIN COUNTY—		
Clyde Daugherty, Mohr 1	*	2418
Ohio Fuel Gas Co., Richard 1.....	¶½	....
MEIGS COUNTY—		
Ohio Fuel Gas Co., Nelson 2.....	*	....
MUSKINGUM COUNTY—		
Ohio Fuel Gas Co., Slack 1.....	¶¼	4058
MEDINA COUNTY—		
Edson Sons Co., Frank 17.....	20	465
PERRY COUNTY—		
Berlin & Co., Emmert 1.....	¶¼	2984
STARK COUNTY—		
Penn Oil & Gas Co., Dailey 1.....	¶½	4154
WAYNE COUNTY—		
Hulse & Kundtz, Myers & Horn 1..	*	....

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
HARDIN COUNTY—		
Appalachian Gas Corp., Kritzler 2..	¶¼	1370

INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
SPENCER COUNTY—		
Santa Fe Oil Co., Berg 2.....	30	871
Leggett & Mellon, Grass 1.....	30	....
Seitz & Medley, Phillips Hrs. 1....	*	....
PERRY COUNTY—		
Conyers, Roetzel & Co., Aders 1..	5	370
PORTER COUNTY—		
San Juan Coal & Oil Co., Hanrahan 1	*	1432
VIGO COUNTY—		
Thomas & Ellis, Collins 1.....	*	....

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
MUHLENBERG COUNTY—		
H. & K. Producers Co., Lee 2.....	25	794
HART COUNTY—		
Unknown parties, Lawler 1.....	¶1	....

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
COWLEY COUNTY—		
Roth and Faurot, Hold 4, (owd) nw c se 12-32-4e	425	2563
McPHERSON COUNTY—		
Derby Oil Co. and Shell, Williams 1, ne c nw 26-19-2w	400	2887
Shell Pet. Corp. et al, Johnson 1, (owd) se nw se 36-19-2w	2225	3397
Twin Drlg. Co., Phillips Pet. and Shell, Dielman 1, c ne nw 22-19-2w	*	3434
MORRIS COUNTY—		
Loomis et al, Jentis 1 (owd) cnl ne se 16-16-7e	*	2265
STEVENS COUNTY—		
Texas Interstate Pipe Line Co. et al, Kelly 1, se c nw 16-34-38w.....	¶3	2705
Texas Interstate Pipe Line Co. and Phillips Pet., Shirley 1, c ne 2-34-38w	¶6½	2605
Texas Interstate Pipe Line Co. et al, Rinehart 1, c ne 22-32-39w.....	¶10	2402

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CREEK COUNTY—Wilrough Oil Co., Steward 1a, sw c nw ne 32-17-12e	¶3½	1593
Sidwell Drlg. Co., Fee 1, nw se ne 12-18-8e	¶¼	2550
Johnson Oil Refg. Co., Cordell 1, sw c se sw 17-19-9e	¶¼	2144
Holmes Oil Co., Morrison 1, se c sw 32-19-10e	*	2417
Westfall Drlg. Co., Chatham 1, nw ne sw 32-19-9e	*	2508
HASKELL COUNTY—		
Enterprise Gas Co., Phillips 1, ne c 10-9-18e	¶¼	1142
LATIMER COUNTY—		
Choctaw Gas Co., Weaver 1, c ne nw 4-6-18e	*	3475
MARSHALL COUNTY—		
Poor Boy Oil Co., Null 2, nw c sw sw ne 24-5s-5e	*	740
Magnolia Pet. Co., Coatsworth 2, (owd) nw c se se se 30-5s-6e.....	*	775
MUSKOGEE COUNTY—		
M. E. Johnson, Hardishell 2, ne se sw 19-14-19e	*	700
Mack Drlg. Co., Peterson 1, sw c nw 34-16-15e	¶2½	1174
OKLAHOMA COUNTY—		
I.T.I.O. et al, View Point 3, nw sw se 10-11-3w 20500		6350
Dengail Oil Co., Hile 1, se c ne ne nw 10-11-3w 7900		6347
Wilcox, Anderson & Kerr, Wright 1, nw c sw 10-11-3w 3710		6485
T. B. Slick Estate, Frost Heights 3, se c 10-11-3w 600		6472
Anderson-Pritchard Oil Corp. et al, Payne 1, cnl nw sw se 3-11-3w....4620		6296
Phillips Pet. Co., Johnson 1, se c nw sw se 3-11-3w 4920		6294
Champlin Refining Co., Seal 1, nw c ne sw sw 2-11-3w..... 270		6268
Russell Pet. Co., Reno 1, ne c sw nw nw 2-11-3w 49495		6240
T. B. Slick Estate, Foote-Briscoe 1, ne c sw se sw 2-11-3w 70		6158
OKMULGEE COUNTY—		
Miller et al, Kemyarve 1, se c nw nw 32-15-13e	¶6	1925
Denton & Marshall, Woffard 1, ne c sw sw 5-14-14e	*	1723
J. H. Rebold Oil Co., Replogle 1, nw c ne ne 12-15-12e	*	2637
PAYNE COUNTY—		
Magnolia Pet. Co., Jennings 2, nw c sw 10-18-5e	*	3682
PONTOTOC COUNTY—		
Madison Pet. Corp., Gilcrease 1, nw sw nw 7-4-8e	*	2143
POTTAWATOMIE COUNTY—		
Crosbie & Mid-Kansas, Miller 1, sw ne ne 22-6-3e 120		3573
SEMINOLE COUNTY—		
Carter Oil Co., Coker 8, ne c sw 2-8-5e 980		4219

NORTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
SABINE PARISH (Zwolle)—		
Abb Jones, Ferguson 1, 33-8-12.....	*	2528
SABINE PARISH (Pleasant Hill)—		
John Henry O&G Co., Cook Land Co. 3, 34-10-12	*	3250

LOUISIANA GULF GOAST

Company, Well and Location	Initial Production Bbls.	Depth
COMPLETIONS—		
ASCENSION PARISH—		
Gulf Ref. Co., United Land Co. 19..	300	4874

(Continued on page 93)

Permits Granted For New Wells

▼ ▼ ▼

CALIFORNIA

KERN COUNTY—L. C. Osborn, Duff 1, 15-30-29. Kendall Development Co., No. 1, 27-11-9.

LOS ANGELES COUNTY — O. C. O. Oil Co., No. 1, 14-3-16.

MT. POSO—General Pet. Corp., Heisen 34, 16-27-28.

LOUISIANA

CALCASIEU PARISH—Gulf Refg. Co. of La., Houston, Texas, Lutcher & Moore 27, 19-9s-12w, 1165 ft s and 610 ft e of nw cor of se¼. Yount-Lee Oil Co., Beaumont, Texas, Miller 2, 8-10s-9w, 125 ft n and 120 ft w of se cor ne¼ of nw¼.

CONCORDIA PARISH—United Gas Public Service Co., Houston, Texas, Smith & Miller 1, 33-8n-9e, 6461 ft s, 41 deg e, 26.5 ft s, 49 deg w of nw cor of sec.

VERMILLION PARISH—The Pure Oil Co., Ft. Worth, Texas, Alliance Tr. Co. 1, 34-11s-1w, 2600 ft n and 300 ft e of sw cor of section.

TEXAS

ANDERSON COUNTY—Humble O&R Co., Houston, A. E. Todd, 59, A6, D. Clark sur, 300 ft from e and 700 ft from s line.

BEE COUNTY—Gulf Coast Oil Co., Houston, P. McKinney, 858, 2, 2401 ft from e and 150 ft from s line. United Production Co., Houston, G. A. Ray, 583, 35, T. Hanson sur, 1567 ft from sw and 2175 ft from w corner; 36, 2165 ft from w cor and 2422 ft from sw line.

BELL COUNTY—T. B. Smiley, Temple, J. F. Edds, 54, 1, M. Moreno sur, center.

CARSON COUNTY—Red River Gas Co., Amarillo, A. F. Bennett, A, 160, 1, S 2, B 5, B&B sur, 660 ft from n and w lines. Interstate Prod. Co., Amarillo, Coffee, 80, 1, S 15, B 4, I&GN sur, center of s½ of nw¼; Seiber, 160, 1, S 10, B 7, I&GN sur, center of nw¼.

CHAMBERS COUNTY—Sun Oil Co., Beaumont, J. H. Smith, 20, 2, W. D. Smith sur, 50 ft from n and 75 ft from e line; O. K. Winfree, 20, 2, W. D. Smith sur, 415 ft se of No. 1.

CHEROKEE COUNTY—O. W. Killam, Laredo, W. A. Newton, 400, 1, J. Penada sur, 1075 ft from e and 333 ft from s line.

COLORADO COUNTY—H. P. Lockwood, United North & South Dev. Co., San Antonio, H. P. Lockwood, 1280, 1, J. Johnson sur, 2000 ft from w and 3100 ft from s li survey.

GREGG COUNTY—Wise & Jackson, Longview, W. Dickey, 30, 1, W. H. Johnson sur, 150 ft from e and 300 ft from s line. Gulf Prod. Co., Houston, A. Spear, 80, 1, W. P. Chisum sur, 150 ft from n and e lines; B. Watson, 78, 1, J. S. Caruthers sur, 330 ft from s and e lines. Manziel & Kouri, Gladewater, Baptist Church, 1, 1, M. Dillard sur, 160 ft from n and w lines. J. W. Olvey, El Dorado, Ark., B. E. Rodden, 10, 1, Wm. Robinson sur, 150 ft from nw and 100 ft from w line. L. S. Flannery, Longview, W. H. York, 41, 1, Wm. Carlton sur, 150 ft from w and 560 ft from s line. F H E Oil Co. et al, Fort Worth, J. Elemister, 37, 1, B 13, G. Hooper sur, 150 ft from s and w lines. Alfred McMillan, Henderson, J. R. Fenton, 30, 1, D. Sanchez sur, 150 ft from s and w lines. Humble O&R Co., Houston, J. A. Knowles, 100, 1, M. Van Winkle sur, 689 ft from n and 296 ft from e line. Alco Royalty Corp., Tulsa, J. R. Castleberry, 80, 1, J. R. Castleberry sur, 150 ft from n and w lines. T P Coal & Oil Co., Fort Worth, Fee, 182, 1, S 173, G. Hampton sur, 330 ft from s and w lines of survey. Danciger O&R Co., Fort Worth, C. C. Clemmons, 28, 1, D. Sanchez sur, 150 ft from s and e lines. East Texas Ref. Co., Dallas, C. Fisher, 147, 2, J. Ruddle sur, 244 ft from n and 235 ft from w line.

For Tabulation and Comparison See Market Section

GALVESTON COUNTY — Yount-Lee Oil Co., Beaumont, Cade, 21, Fitzsimmons, 585 ft from e and 1390 ft from n line.

GUADALUPE COUNTY—C. McGarity, San Antonio, A. Wesch, 214, 1, H. M. Thompson sur No. 89, 150 ft from n and e lines.

HUTCHINSON COUNTY—T. M. Deal O &G Co., Wichita, Kas., Blackburn, 100, 1, S 33, B Y, A-B sur, 150 ft from n and e lines of nw¼.

JACK COUNTY—Deininger, Sompley et al, Olney, R. S. Lanier, 47, 1, B 16, BBB&C sur, 250 ft from w and 800 ft from s line.

JIM WELLS COUNTY—Carsil O&G Co., San Antonio, J. C. McGill, 640, 2, W. D. Baldwin sur, 1665 ft from w and 1542 ft from s li survey.

JONES COUNTY — Croft & Conner, Inc., Fort Worth, W. D. Swann, 84, 1, No. 281 I. Miley sur, 150 ft from s and e lines. Union Oil Co. of Nevada, Abilene, J. Hoyt, 148, 1, No. 195 G. Martinez sur, 200 ft from s and w lines. Eastland Oil Co., Fort Worth, O. N. Brewer, 130, 1, J. W. Martin sur, 330 ft from s and w lines.

MAVERICK COUNTY—Texas Gas Utilities Co., Del Rio, I. T. Pryor, 2560, 4, (Zavala County); Chittim, 8, Blk 7, I&GN sur, 24 ft s of No. 7.

MOORE COUNTY — Hagy, Harrington & Marsh, Amarillo, Bivins, 160, 2, S 93, B 46, H&TC sur, center of s½ of n½; Bivins, 160, 1, S 95, B 46, H&TC sur, 660 ft from s and e lines.

PALO PINTO COUNTY—Brazos River Gas Co., Mineral Wells, S. B. Edmondson, 960 16, B A49, D. Bourne sur, 2500 ft from n and 700 ft from e line.

PECOS COUNTY—Culberson Bros., Fort Worth, Monroe, 520, 1B, S 39, B 194, GC&SF sur, 150 ft from n and w lines.

RUSK COUNTY—Turman Oil Co., Tulsa, W. P. Brightwell, 30, 2, R. E. Winn sur, 165 ft from n and 150 ft from w line; 1, 150 ft from n and e lines; W. E. Brightwell, A, 32, 1, E. G. Sevier sur, 150 ft from s and e lines; A. J. Deason, 50, 5, M. J. Pru sur, 150 ft from s and w lines. Gulf Prod. Co., Houston, G. G. Turner, 107, 1, F. Cordova sur, 330 ft w of center of e line; C. F. O'Quinn, 27, 1, Geo. Berry sur, 300 ft s of center of n line; E. E. Thrash, 83, 1, F. Cordova sur, 330 ft from n and w lines; 2, 330 ft from s and w lines; T. B. Cashen, A, 45, 1, H. B. Dance sur, 330 ft from s and e lines; C. M. Jernigan, 100, 1, W. W. Simms sur, 229 ft from e and 150 ft from n line. Great Eastern Oil Co., Dallas, J. R. Alford, 20, 1, T. Moore sur, 150 ft from s and w lines of Blk. 31. C. B. Mitchell, Wichita Falls, R. Pearl, 4, 1, M. J. Pru sur, 150 ft from n and e lines. W. B. Tucker, Dallas, D. Wills, 42, 1, Wm. Chisum sur, 235 ft from n and 790 ft from w line. W. C. Woolf, Shreveport, La., J. P. Wilson, 70, 1, Pru-McAnulty sur, 290 ft from w and 330 ft from s line. Tulsa Oil Co., Tulsa, Kangora, 20, 1, M. J. Pru sur, 258 ft from n and 250 ft from w line. J. W. Olvey, El Dorado, B. Bean, 3, 1, H. Hobson sur, 150 ft from n and e lnes. H. W. Elliott, Fort Worth, E. B. Alford, 3, 1, I. J. Parker sur, 193 ft from n and 175 ft from e line. A. W. Phillips, Tyler, J. B. Wilson, 10, 1, M. J. Pru sur, 150 ft from s and e lines. East Texas Ref. Co., Dallas, D. Wills, 83, 5, M. J. Pru sur, 200 ft from n and 729 ft from e line; D. Wills, 83, 1, Wm. Chisum (Gregg) sur, 150 ft from w and 250 ft from s line; C. C. Giles, 15, 2, M. J. Pru sur, 300 ft from n and 167 ft from e line. Houston Oil Co., Houston, S. S. Laird, 70, 2, I. Ruddle sur, 150 ft from s and e lines; N. B. Bean, 41, B1, J. Lewis sur, 150 ft from w and 255 ft from s line; W. J. Brightwell, 20, 4, R. E. Winn sur, 460 ft s of No. 3; 3, 150 ft from n and w lines; 5, 300 ft s of No. 1. Magnolia Pet. Co., Dallas. M. F. Peterson, 40, 1, W. P. Chisum sur, 150 ft from e and 300 ft from s line; E. Florey, 50, 3, P. W. Holmes sur, 330 ft from n and 150 ft from w line. E. R. Tennant, Dallas, H. Brooks, 176, 4, M. J. Pru sur, 150 ft from n and w lines. Tidal Oil Co., Fort Worth, N. Bean, 58, 2, I. Ruddle sur, 250 ft from s and w lines. Danciger O&R Co., Fort Worth, A. J .Deason, 10, 1, M. J. Pru sur, 240 ft from n and 193 ft from w line. W. R. Ramsey, Oklahoma City, M. Kangera, 229, 1, R. A. Allen sur, nw corner. W. B. Hamilton, Wichita Falls, Wm. Jobe Est. 109, 7, J. Ximinez sur, 630 ft from w and 240 ft from s line. Standard Pipe & Supply Co., Dallas, W. P. Brett, 48, 1, M. J. Pru sur, 185 ft from s and w lines. Markham & Dunning, Fort Worth, J. N. Peterson, 25, 6, R. E. Winn sur, 150 ft from s and w lines. Humble O&R Co., Houston, M. Kangera, 564, 6, M. J. Pru sur, 327 ft from n and 200 ft from w line; C. J. Thompson, 116, 1, M. J. Pru sur, 172 ft from n and 1048 ft from w line; M. Kangera, 73, 5, M. J. Pru sur, 150 ft from s and w lines; M. Kangera, 90, 4, M. J. Pru sur, 150 ft from s and w lines. Jno. W. Hooser et al, Dallas, L. Toliver, 5, 1, J. Ximinez sur, 150 ft from s and e lines. Gulf Coast Oil Co., Houston, D. F. Giles, 15, 1, M. J. Pru sur, 150 ft from s and 165 ft from e line; 3, 165 ft from e and 813 ft from s line. Cordova-Union Oil Corp., Fort Worth, C. O. Christian, 36, 5, R. E. Winn sur, 160 ft from n and e lines; 6, 150 ft from s and w lines. Sinclair O&G Co., Fort Worth, W. D. Kinney, 137, 1, J. B. Decadena sur, 612 ft from e and 591 ft from n line. C. L. McMahon, Tulsa, A. R. Finney, 22, 2, J. Ximinez sur, 150 ft from s and e lines; 1, 150 ft from s and w lines.

REFUGIO COUNTY — Houston Oil Co., Houston, H. Ryals, 5, Refugio sur, 422 ft w of No. 4. United Production Co., Houston, W. Heard, 200, 6, Refugio sur, 257 ft from s and 3833 ft from e line.

SMITH COUNTY—Sinclair O&G Co., Fort Worth, A. Wiley, 312, 1, J. Jordan sur, 3140 ft from e and 1162 ft from n line; Mayfield, 374, 1, J. Jordan sur. Owen-Sloan Oil Co., Tulsa, M. Starnes, 600, 1, S. Epps sur, 3410 ft from n and 4684 ft from w li survey. C. R. Morrison Co., Dallas, I. Ray, 40, 1, H. Cook sur, 330 ft from s and w lines. Texas Co., Houston, M. Blackwell, 100, 1, Jas. Jordan sur, 330 ft from s and w lines.

SHACKLEFORD COUNTY—H & H Drilling Co., Albany, B. S. Walker, 60, 6, 381 TE&L sur, 300 ft sw of No. 3. A. C. Walker, Albany, L. C. Huskey, 80, 18, 529 TE&L sur, 1650 ft from n and 1050 ft from w line.

SHELBY COUNTY—Frost Lbr. Co., H. C. Mauldin, Center, Frost Lbr. Co., 80, 1, A. D. Fountain sur, 1240 ft from w and 450 ft from n line.

THROCKMORTON COUNTY — Holder & Gordon, Breckenridge, Wilhelm, 80, 1, 651 TE &L sur, 150 ft from sw and 450 ft from se line.

VAN ZANDT COUNTY—H. B. Barnhart, Dallas, D. K. Windle, 4, 1, Wm. Daniel sur, 20 ft from w and 650 ft from n line. Humble O&R Co., Houston, C. L. York, 85, 1, Wm. Daniel sur, 150 ft from s and e lines.

VICTORIA COUNTY — T. B. Slick Est., Oklahoma City, J. A. McFaddin, 1, J. Wairin sur, se corner.

WEBB COUNTY—Carolina Texas O&G Co., Laredo, R. O. Barnsley, 40, 9, S 268, B 13, 200 ft from n and 150 ft from e line.

ZAVALA COUNTY — Texas Gas Utilities Co., Del Rio, I. T. Pryor, 2560, 4, 675 ft ne of No. 3.

ZAPATA COUNTY—Nordan & Morris et al, Laredo, H. Bustamente, 53, 1, No. 35 Comitas

sur, 200 ft from nw and 750 ft from ne line. W. R. Shankle, Laredo, M. Garza, 40, 3, B 10, Zorro sur, 1050 ft from nw and 150 ft from sw line; 2, 450 ft from nw and 150 ft from sw line. Claypool & Nickson, Roswell, N. M., M. Garza, 40, 3, B 11, Zorro sur, 1080 ft from nw and 150 ft from ne line. Benson Oil Co., San Antonio, Vela, 640, 1, S 259, 830 ft from n and 490 ft from w li sw¼. J. I. Newton, Laredo, I. G. Trevino, 7, 3, S 66, B 7, 510 ft from n and w lines. W. T. Henry, Mirando, Gopher, 40, 1, 854, B 10, 150 ft from se and ne lines.

KANSAS

BUTLER COUNTY — Magnolia Pet. Co., Koogler 66, nw sw sw 21-26-5e.

GREENWOOD COUNTY—Mathews et al, Thrall 1, ne c 17-24-12e.

McPHERSON COUNTY—Carey and The Texas Co., Holt 1, c nw se 13-19-2w. McPherson O&G Development Co. and Shell, Salthouse 2, c ne se 15-19-2w. McPherson O&G Devel. and Shell, Salthouse 3, c se se 15-19-2w. Wolf Creek Oil Co. and Sinclair, Dunsford 1, se c sw 23-19-2w; Youker et al, Eaton 1, nw c ne 26-19-2w. Syndicate Oil Co., and Shell, Becker 2, sw ne se 36-19-2w. Syndicate Oil Co. and Shell, Becker 3, nw ne se 36-19-2w. Abilene Oil Co. and Shell, Garrett 1, nw c ne 30-19-1w. Abilene Oil Co. and Shell, Anderson 1, ne c nw 30-19-1w. Abilene Oil Co. and Shell, Anderson 2, ne nw nw 30-19-1w.

SEDGWICK COUNTY — Derby Oil Co., Rimel 1, (owd) nw ne ne 30-21-2e.

SUMNER COUNTY—Spencer et al, Porter 1, ne c sw 12-33-4w.

OKLAHOMA

CARTER COUNTY—Lesh and McCall's Carter 2, ne sw sw 14-1s-3w; Amos Drlg. Co. et al's Hocks 1, se c 13-12-3w.

LOVE COUNTY—Batson, Stanett and Autry's Autry 1, cnl sw nw nw 26-6s-2e.

MUSKOGEE COUNTY—J. A. Swindler et al's Crabtree 4, ne c nw ne 4-14-18e.

OKFUSKEE COUNTY—R. C. Walker's Myers 1, cel se nw 3-11-11e (owd).

OKLAHOMA COUNTY—Eason Oil Co.'s Lively 2, nw c se 15-11-3w; I.T.I.O.'s Lawrence Place 4, sw c ne 15-11-3w; Tucker et al's Golden Lane 1, nw c se se 15-11-3w; T. B. Slick Estate's Burroughs 1, nw c sw ne nw 10-11-3w; Westgate Oil Co.'s Blevins 1, ne c sw sw nw, 10-11-3w; T. B. Slick Estate's Terminal 2, se c ne se nw 3-11-3w; T. B. Slick Estate's Wespaco 2, nw sw se 34-12-3w.

OKMULGEE COUNTY—Mitchell Oil Co.'s Randall 6, c se nw 30-12-12e; Mack Drlg. Co.'s McKay 1, sw c se se 24-16-14e.

PITTSBURG COUNTY—Central States Light & Power Co.'s Bascom 3, se c sw 10-7-18e; Red Bank Oil Co.'s Campbell 1, c nw 6-6-14e.

SEMINOLE COUNTY—Neal & Milton's Thomas 1, nw ne sw 9-6-7e (owd).

TULSA COUNTY—Owens et al's Warner 3, sw c se sw 33-18-14e; Chandler & Day's Shields 1, ne c se 30-19-14e; McDonigal et al's Cowans 2, csl nw sw 7-19-14e.

ARKANSAS

UNION COUNTY—Lion Oil Refining Co., Guy P. Hays 9-A, 242 ft s and 246 ft w ne cor sw¼ ne ¼ 4-16-15.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

COMPLETIONS

(Continued from page 91)

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
BARBERS HILL—		
Humphreys Corporation, Lula Barber 1	3100	5572
Barber 2-B	1850	5079
Yount-Lee Oil Co., O. K. Winfree 2	1020	5493
HUMBLE—		
South Coast Oil Co., Perkins 2	50	2904
MANVEL—		
The Texas Co., Ewing 1	*	7648
PIERCE JUNCTION—		
Tilton & Perot, Gulf Jones Fee 1	360	3807

SOUTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BEE COUNTY—		
Hicks et al's Billingsley 1	*	3550
United Prod. Co.'s Ray 36	335	3940
CALDWELL COUNTY—		
Nuehaus and Camp's Moore 1	*	2515
GUADALUPE COUNTY (Darst Creek)—		
Humble O&R Co.'s Denman 24-A	600	2577
VICTORIA COUNTY—		
United Prod. Co.'s McFadden 1-B	*	3893
WEBB COUNTY—		
O. W. Killam's Killam 1	*	2900
ZAPATA COUNTY—		
O. W. Killam's Bustamante 5	*	1451
W. R. Shankle's Garza 3	25	1376

CENTRAL EAST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
JOINER FIELD—		
Babcock Bros.-Ann B. Gordon Oil Co., Camp (4-ac) 1	*	3607
C. & P. Oil Co. (Roy I. Carter), Giles 1	2000	3744
East Texas Ref. Co., Giles 2	4500	3715
Cranfill-Reynolds Co., C. Young 1-B	2500	3758
Gilcrease Oil Co., D. Bradford 1	3000	3668
D. Bradford 2	6500	3699
W. B. Hamilton-Consolidated Oil Co.-Jenkins, Jobe 6	2500	3640
H. L. Hunt et al, A. P. Finney 1	1000	3683
H. L. Hunt & Graddy Vaughn, Young 2	10,000	3789
Humble O&R Co., Kangerga 2	3000	3750
Ben Johnson et al, Ras Pool 1	3000	3745
C. M. Joiner (E. R. Tennant, Rec.) H. Brooks 2	3000	3696
Lide-Taylor Oil Co., Young 2	3000	3698
Lide-Rowe Oil Corp., Young 1	4000	3710
Moody-Seagraves Producing Co., Thrash 5	3000	3703
Olsan Bros. et al, J. T. Brown 2	2500	3745
Pilot Oil Co., Finney 3	2500	3694
Robert Oil Corp., Carlton School 1	7500	3708
Bert J. Shaw Oil Co., Deason 1	625	3702
Southern Oil Co., Giles 1	4000	3700
Ward Oil Corp. et al, Giles 2	3000	3729
KILGORE FIELD—		
H. L. Blackstock et al, W. P. Brightwell 3	10,000	3659
British-American Oil Co., Geo. Thompson 1	10,000	3731
Cranfill-Reynolds Co., King-Blackburn 1	15,000	3630
Geo. Thompson 1	6000	3650
Federated Oil Co., Ben Laird 2	8000	3780
Devonian Oil Co.-Gulf Prod. Co. R. A. Motley 1	15,000	3681
East Texas Loan & Dev. Co., Lillie Morse 1	12,000	3679
Gulf Prod. Co., W. P. Brightwell 1	8000	3710
C. M. Griffin 2	6000	3680
Houston Oil Co., S. S. Laird 1	12,000	3730
Humble O&R Co., L. D. Crim 6	9000	3696
S. S. Laird 1-B	10,000	3760
R. A. Irwin et al, Peterson-Laird 1	15,000	3727
Ed. M. Jones-Houston Oil Co., Crim 2-B	7500	3739
Louisiana-Texas Oil Corp.-C. H. Lyons et al, Kennedy 1	7000	3747
Magnolia Pet. Co., Della Crim 6	16,000	3664
Della Crim 7	17,000	3628
Ben Laird 2	19,000	3640
Marine Corp., Bean 2	10,000	3645
Snowden & McSweeney Co., Ray Laird 1	20,000	3687
Claude Upchurch Estate & Allen, W. P. Brightwell 2	20,000	3655
Woodley Pet. Co., Joe Ladd 1	15,000	3666
Dave Ladd 1	12,000	3704
D. M. Peterson 1	12,000	3730
LONGVIEW FIELD—		
Frank Foster-East Texas Ref. Co., Fisher-Rodden 2	7500	3545
T. D. Humphrey et al, A. F. McAbee 1	*	3578
Magnolia Pet. Co., B. E. Rodden 3	12,000	3568
B. E. Rodden 4	15,000	3595
Pilot Oil Co., McGrede 1	8000	3681
Skipper Oil Co., Thadd Snoddy 1	12,000	3612
Skipper Oil Co. & Lacy, Maggie Magrill 1	15,000	3658
Yount-Lee Oil Co., J. C. McKinley 1-A	15,000	3600
VAN FIELD—		
Humble O&R Co., R. S. Blake 11	6000	2930
Pure Oil Co., J. A. Bracken 3	6500	2947
L. M. Brawner (147.9-ac) 2	*	3020

NORTH TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
Deep Oil Dev. Co., L. F. Wilson 1, Lse. 4-A	400	2214
BAYLOR COUNTY—		
Bert Ehorn et al, Porter 1	*	1850
Hart et al, Stevens 1	*	1323
CLAY COUNTY—		
R. T. Belcher et al, Evans 9	*	1802
COOKE COUNTY—		
Gray-Tex Oil Co., Riley 1	5	1573
DENTON COUNTY—		
A. W. Walker et al, Wilson 1	*	1524
WICHITA COUNTY—		
Jack H. Martin et al, Logan 1	*	1789
NORTH YOUNG COUNTY—		
Gorris et al, Beckman 1	*	1313
Lee & Brashear, Jeffery 2	400	731
Stacy Jenkins et al, Lowe 1	*	900
Oil News Publishing Co., Dollins 1	*	706
Primrose Ref. Co., Rouston 1	*	840
Sam Simmons et al, Hawknis 1	*	518
D. L. Wolff et al, Howard 1	*	790

CENTRAL WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
BROWN COUNTY—		
Beasley et al, Dabney 1	*	1815
CALLAHAN COUNTY—		
Bateman Co. et al, Hayden 1	*	2503
Guffey et al, Finley 2	*	722
States Oil Corp., Harris 1	¶2	1193
COLEMAN COUNTY—		
Barney Carter et al, Goodson 1	¶¼-20	3710
Bartlett & Dozier, Jennings 1	¶1½	2244
Kelly et al, Long 1	*	1790
Neversuch Oil Co., Burkett 2	375	1610
EASTLAND COUNTY—		
Hayzlip et al, Sneed 1	*	3661
Lone Star Gas Co., Groves-Phillips 1	¶16½	3578
HAMILTON COUNTY—		
Geo. B. McCamey et al, Eidson 1	*	3854
PALO PINTO COUNTY—		
Indian Royalty Co., Allen 1	¶¼	4002
Mook-Texas Oil Co., Rexroat 1	*	3207
Peters et al, Stephens 1	¶5½	3036
Walker et al, Loflin 1	¶11¼	3231
SHACKELFORD COUNTY—		
Joe Baldi et al, Rice 1	*	951

WEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
FISHER COUNTY—		
Roeser-Pendleton, Inc., Gribble 1	*	3272
HOWARD COUNTY—		
G. O. Chalk et al, Fee 6	80	3015
JONES COUNTY—		
Ewmo Oil Corp., Jane Hoyt 1	125	1981
LOVING COUNTY—		
The California Co., J. G. Allen 2	175	3349
PECOS COUNTY—		
Cardinal Oil Co., Tippett-Kirby 7-E	200	490

Wildcat Reports From All Sections

KANSAS

MORTON COUNTY—Hydraulic Oil Co., State land 1, nw se, 22-34-43w, sd 3460 ft.

STEVENS COUNTY—Sidwell et al, Kelly 1, sw ne, 16-34-38w, (owd) 5 in 2651 ft, S 2678-2862 ft, 3Mgas, td 2872 ft, comp. 4-6-31.

COWLEY COUNTY—Fisher et al, Hunt 1, c sw se se 11-34-3e, ru & sd.

SUMNER COUNTY — Spencer et al, Porter 1, ne sw, 12-33-4w, rog.

COWLEY COUNTY—Roth and Farrout, Reidy 1, c sw nw ne, 8-32-4e, sd 1040 ft.

HARPER COUNTY—Beeler et al, Bear 1, c ne, 21-31-6w, td 1830 ft sd.

FORD COUNTY—Carter et al, Community-Everett 18, c ne, 22-29-21w, (6000 ft test) dr 2257 ft.

SEDGWICK COUNTY — Buck et al, McNanaman 1, c ne nw nw 2-20-1e, 10 in, 2301 ft, hfw 2295-2370 ft, ts 2440 ft sd.

FORD COUNTY—Swain et al, Kenthorn 1, c nw, 21-25-24w, 5 in, 4600 ft, dr 4730 ft.

STAFFORD COUNTY—Rosenthal, Stanolind & Amerada, Gray 1, c ne, 11-24-13w, ru sd.

RENO COUNTY — Shell & Continental, Blake 1, sw se se, 23-23-4w, top chat 3256 ft, 8 in 3267 ft, td 3269 ft, rust.

HARVEY COUNTY — Empire & Shell, Showalter 1, nw se, 23-23-2w, dr 2900 ft, 8 in. 2983 ft; T. Chat; dr 3220 ft.

MARION COUNTY—Maidwell, La Master 1, nw c, 31-22-4e, sd 650 ft.

COFFEY COUNTY—Hegberg et al, Kroft 1, se sw se, 30-22-14e, 10 in, 818 ft, td 1300 ft sd. Roberts et al, Hay 1, sw se nw 32-22-15e, td 1250 ft sd.

BARTON COUNTY—McCool et al, Tsern 1, c sw se ne 12-20-11w, td 1600 ft.

RICE COUNTY—Cress et al, Sharp 1, se ne, 13-20-10w, 6 in, 3140 ft; T. sil. L. 3330 ft; td 3336 ft. Est good for 1500 bbls day, shut in, no pipe line.

RUSH COUNTY—Dewey & Mitchell, Greenwalt 1, c sw, 17-19-16w, sd 1700 ft.

RICE COUNTY—Skelton Oil, Ott 1, c se se, 16-19-14w, sd 2065 ft. Deitrick & Langston, Purcell 1, nw c, 33-19-9w, 15 in. 137 ft, dr 690 ft.

McPHERSON COUNTY — Henderson & Holden, Sommerfield 1, c ne sw, 23-19-1w, 6 in, 3247 ft; Viola 3417-3418 ft, HFW, dr 3425 ft.

BARTON COUNTY—Syndicate Oil, Boertz 1, c nw se ne, 13-18-12w, 10 in, 1954 ft, td 2140 ft, fsg tools.

RICE COUNTY—Allison & Fitzwilliams, Blake 1, ne nw, 9-18-10w, rig. McFadden & Shell, Jennings 1, c sw ne nw 29-18-6w, PB to SG at 1130 ft.

NESS COUNTY—Gypsy, Coleman 1, c sw ne, 25-17-25w, 8 in 3860 ft, 6 in 4158 ft, T conglomerate 4373 ft, 4400-4440 ft, 2000 water, dr 4460 ft.

ELLSWORTH COUNTY—Aylward et al, Stratman 1, c se nw se, 1-17-10w, sil.l. 3265 ft, S O rng liner, td 3271, swab 90 bbls 1st hr after deepening, 117 bbls 2nd hr, now shut in.

ELLSWORTH COUNTY—Gilmore Oil Co. et al, Sturn 1, nw sw, 31-17-9w, Est. 2½ M gas 2480-85 ft, show water 2620, dr 2740 ft.

MORRIS COUNTY—Urschell et al, Bersuch 1, c nw se nw, 10-17-7 east, ru sd.

ELLSWORTH COUNTY—Alladin et al, Sotddenberg 1, c sw, 22-15-10w, sd 1130 ft.

SALINE COUNTY—Stanolind et al, Martin Community 1, ne se se, 3-16-3w, 13 in 1355 ft, dr 1755.

MORRIS COUNTY—Hankenson et al, Cessnum, 1, sw se 24-16-9e, show oil 1589 ft, 6 in 1732 ft, dr 1910.

FRANKLIN COUNTY—Fields et al, Usher 1, se c 35-16-17e, sd 400 ft.

RUSSELL COUNTY—Hall et al, Mills 1, se sw se, 30-14-13w, 12 in 701, dr 1750 ft.

ELLSWORTH COUNTY—Milton et al, Kaster 1, se ne, 6-14-9w, 10 in 1734 ft, dr 2018 ft. Hershey et al, Schaltz 1, c ne, 9-14-8w, sd 400 ft.

OSAGE COUNTY—Riggs-Smith, Wood 1, c se nw, 31-14-15e, 10 in 1050 ft, sd.

RUSSELL COUNTY—Austin Drlg. Co., Rockefeller 1, se c 6-13-12w, 3320-25 ft, HFW td 3374 ft.

SALINE COUNTY—Twin Mounds Oil Co., Weiss 1, c w½ ne nw, 30-13-4 west, (owd) 19 in 1010 ft, sd 2710 ft.

DICKINSON COUNTY—Severs et al, Livingood 1, ne sw, 13-13-2e, sd 3850 ft.

RUSSELL COUNTY—Gilbreath et al, Bratton 1, c ne, 33-11-13w, 8 in 2485 ft, td 2814 ft, sd.

GRAHAM COUNTY—Schleimeyer et al, Clark 1, c sw ne ne, 11-9-25w, rng 8 in 3715 ft, 6 in 3848 ft, td 4040 ft, 6 in now at 4015 ft, td 4040 ft fsg for UR.

CLAY COUNTY—Nebraska Oil, Tivier 1, sw c 19-8-9e, dr 2440 ft.

SHERIDAN COUNTY—Flo et al, Shoemaker 1, se sw sw, 27-7-26w, 10 in at 1178 ft.

ROOKS COUNTY—Empire, Holsman 1, c sw ne se, 17-7-20w, HFW 2540 ft, td 2545 ft, UR 10 in csg.

WASHINGTON COUNTY—Sincox, Penwell 1, nw se ne, 16-3-3e, sd 1720 ft.

RAWLINS COUNTY—Danciger et al, Unknown 1, sw c 3-2-35w, sd 2700 ft.

WEST TEXAS

Completions

TAYLOR COUNTY—
Adams-Ferguson & Hobbs, Lowe 3 † 1970

ANDREWS COUNTY—Deep Rock Oil Co. et al's Kuykendall 1, elev 3217 ft, top anhydrite 1678 ft, salt 1720-2810 ft, top brown lime 4045 ft, top white lime 4180 ft, co and flowing 50 bbls 30.5 gravity oil daily after shot, td 4565 ft.

BREWSTER COUNTY—Trans-Pecos O&G Co.'s Jones 1, elev 3073 ft, sd 2800 ft.

COKE COUNTY—Reid-Hitchins & Stanolind O&G Co.'s Duncan 1, sp and sd.

CONCHO COUNTY—W. I. Betts & Dennis' Wood-Hendrick 1, sp and sd. A. W. Turner-Cromwell & Wesner's Brosig 1, elev 1699 ft, sd 1885 ft.

CRANE COUNTY—Cranfill Bros. Oil Co. & Gulf Prod. Co.'s J. B. Tubb 1, elev 2526 ft, salt 505-1400 ft, top brown lime 1410 ft, top white lime 2455 ft, flowing water with show oil by heads and lost tools 5336 ft, pb for shot. H. H. Sides et al's B. P. Nolen 1, dr 200 ft.

CULBERSON COUNTY—Cranfill Bros. Oil Co. et al's Seay 1, sd 2065 ft. W. L. Kornrumpf et al's W. D. Garren 1, sd 1280 ft.

DAWSON COUNTY—R. A. Albaugh et al's Robinson 1, sp and sd.

ECTOR COUNTY — Galt-Brown Co.-Penn Oil Co.'s Cowden 1, elev 3047 ft, top anhydrite 1525 ft, top salt 1535 ft, dr 2885 ft. Southern Crude Oil Pur. Co.'s Cowden 2, elev 3965 ft, top anhydrite 1782 ft, salt 1872-2805 ft, flowing 451 bbls oil via 8⅝ cas from lime 4220-4300 ft, td in shale 4302 ft, running 2½-inch tubing with packer to complete.

EL PASO COUNTY — Tri-State Oil Co.'s Bobadella 1, sd 540 ft.

FISHER COUNTY—Cranfill-Reynolds Co.'s Flanigan 2, elev 1810 ft, dr 3605 ft. Stanolind O&G Co.'s Steele 2, dr 1360 ft. The Texas Co.'s J. A. Jean 1, rig. Texas Unity Oil Co.'s First Nat'l Bank of Rotan 1, elev 1848 ft, dr 2330 ft.

GAINES COUNTY—Landreth Prod. Corp.'s Nick Alleu 1, rig. Texas Consolidated Oil Co. & T. P. Coal & Oil Co.'s E. H. Jones 1, elev 3636 ft, top anhydrite 2120 ft, top salt 2225 ft, sd 3435 ft.

GARZA COUNTY—Garza County Dev. Co. (Penny & Porsey's) Justice 1, elev 2266 ft, dr 1735 ft.

HOWARD COUNTY—Conoco & Group One Oil Corp.'s E. E. Brindley 1, top salt 1170 ft, dr by 10-inch cas 1890 ft, td 1910 ft. Greene Prod. Co.'s Denman 1, sp and sd.

HUDSPETH COUNTY—R. G. Patillo & Ed. Welch's K. S. Briggs 1, sd 350 ft.

IRION COUNTY—Benedum-Trees et al's Sugg Ranch 1, dk. Perry & Fox (was Crawford et al's) Nutt 1, show oil with water in sand 1443 ft. Stanolind O&G Co.'s W. H. Williams 1, elev 2544 ft, filled 300 ft 27.8 gravity oil 3 hrs at 4163-75 ft, dr no increase 4640 ft. Straughan et al's Tankersley 1, elev 2306 ft, sd 1506 ft. F. E. Webb et al's Nutt 3, dr 1100 ft.

JONES COUNTY — Bonds-Trout-Julian et al's Williams 1, sd 2581 ft. Jake Croft & Connor and Tidal Oil Co.'s W. D. Swann (84-ac) 1, rig. Hardly Able Oil Co.'s Butler 1, dr 2430 ft. C. C. Julian Oil & Roy. Co.'s Sears 1, lcn. J. B. Jameson et al's King 1-A, co 1960 ft. Shaheen Oil Co. et al's Chittum 1, pb from salt water 2048 ft to test oil sand 1972-75 ft. Tex-Mex Oil Co. & Eastland Oil Co. (was Condor Pet. Co.'s) Brewer 1, rig. Ungren-Frazier & Al Kruger's King 1, testing and est 300 bbls oil at 1993-2006 ft. Union Oil Co. (Nevada's) Mrs. Jane Hoyt 1, sp. Sam C. Yingling et al's E. D. Coates 1, dr 1730 ft. Young & McNeil's L. R. Cade 1, dr 120 ft.

LOVING COUNTY—The California Co.'s J. G. Allen 3, elev 2741 ft, top salt 815 ft, fsh 2845 ft; Allen 4, dr 640 ft. Carl Cromwell & Atlantic Oil Prod. Co.'s Russell 2, rig. Erwin & Mohres Dev. Co.'s McGinley Corp. 1, rig; Lillie Thorp 1, sp and sd. Folbre & Evans' D. P. Dean 1, fsh 1385 ft. Grisham-Hunter Corp.'s Dean 1, sd 1310 ft. Henshaw et al's Reagan 2, rig. Pete Hoffman et al's Ramsey 1, top salt 760 ft, sd 3620 ft; Ramsey 2, dr 500 ft. Lewis & Slagle Drlg. Co.'s Cartwright-Henderson 1, elev 2901 ft, salt 585-2907 ft, top Delaware lime 3086 ft and Delaware lime 3127 ft, pb from salt water 3180-82 ft to 3179 ft for shot, with 300 ft oil and 900 ft water in hole. Lockhart & Co.'s I. J. Bell 1, dr 1000 ft. H. W. Martin et al's W. D. Johnson 1, lcn. Richmond Drlg. Co.'s Wheat-Russell 1, dr 600 ft. W. A. Sudderth & James' Capitola Pool 1, dr 500 ft. F. S. Tennant et al's Roy Martin 1, sp. West Texas Pet. Corp. (A. R. Eppenauer's) Allen 2, top salt 810 ft, sd 4110 ft; Salisbury 1, top salt 890 ft, top Delaware 4344 ft, testing oil prod at 4380-81 ft.

MENARD COUNTY—J. C. Barnett et al's Callan 4, dr 840 ft. L. G. Priest et al's Sorrels 1, elev 2279 ft, dr 2970 ft. Voss & Bryan's Brandenberger 1, dr 755 ft.

PECOS COUNTY—Cosby Prod. & Royalty Co.'s W. D. Riser 1, elev 2313 ft, top salt 540 ft, dr 705 ft. W. B. Hagan et als Shearer 1, dr 455 ft. J. R. Miller et al's Bennett 1, sd 2285 ft. Penn Oil Co. et al's J. B. Alvis 1, elev 3493 ft, dr 3050 ft. O. J. Perren et al's Eaton 2, elev 2437 ft, sd 1765 ft. W. F. Whitaker & Calloway's Devlin 1, elev 2706 ft, dr 300 ft.

REEVES COUNTY—The California Co.'s Kloh 2, dr anhydrite 2385 ft. Humble O&R Co.'s Balmorlea 1, rig. Lee O. White et al's Mrs. Hersheusen 1, co 4415 ft.

RUNNELS COUNTY—Chas. Dutton et al's Dean 1, sd 2335 ft.

SCHLEICHER COUNTY — Eastland Oil Co. Unit Plan's Tisdale 1, elev 2295 ft, co 2035 ft. J. D. Wesner et al's Ratcliff 1, elev 2408 ft, dr 2900 ft.

SCURRY COUNTY — R. B. Pender O&G Co.'s Davis 1, elev 2208 ft, top salt 445 ft, fsh 5003 ft. Seifert & Dibble's Blackman 1, top salt 720 ft, sd 3100 ft.

STERLING COUNTY — W. C. Beesley et al's W. L. Foster 1-A, elev 2518 ft, dr 1180 ft.

TAYLOR COUNTY — Adams-Ferguson & Hobbs' Lowe 3-A, dr 265 ft. J. B. Jameson et al's Webb 1, elev 1905 ft, dr 6352 ft. Sanger et al's Abilene fee 1, elev 1759 ft, sd 2785 ft.

TERRELL COUNTY — Mid-Kansas O&G Co.'s M. H. Goode 1, elev 2405 ft, making 1,890,000 ft dry sweet gas, sd in black lime and shale 6120 ft. Leonard Jones et al's Peckenham 1, elev 2607 ft, sd 1245 ft.

VAL VERDE COUNTY—O. O. Owens et al's Mills 1, elev 2130 ft, sd 6780 ft.

UPTON COUNTY—Bennett Oil Co. & P. H. Williams' Shirk 1-A, elev 3106 ft, top lime 2510 ft, sd with 900 ft oil in hole 2660-2727 ft. C. C. Duffey et al's McClintic 4, dr 2760 ft. Gulf Prod. Co.'s McElroy 93, top salt 1100 ft, dr 1895 ft; McElroy 94, rig. Mintex Oil Co. & Harry Baldwin's Lane 1, bad hole 450 ft. Bert Weekley Oil Corp.'s McClintic 2, elev 2715 ft, dr 1175 ft.

WARD COUNTY—Alpine Oil & Dev. Co.'s Boogher 3, elev 2741 ft, top salt 810 ft, sd 1600 ft. Beckley et al's Johnson 1, sd 800 ft. Bell & Wier's Boogher 1, dr 1785 ft; Boogher-Cummings 1, top salt 785 ft, dr 1480 ft. Buster Black et al's Hall-Roberts 1, cas trouble 350 ft. Alex Bradford et al's B. Carson 1, elev

2457 ft, top salt 820 ft, dr co 1000 ft. Clyde Bradford et al's Hordage-Wilson 1, dr 1240 ft. Bradford & Abell's E. R. Allen 2, machine. The California Co. & Atlantic Oil Prod. Co.'s A. B. Gordon 1, elev 2523 ft, top salt 1000 ft, dr with 1300 ft oil in hole from sandy-lime 2303-2450 ft. Central Gas & Oil Co.'s Lee Monroe 1, sp and sd. Gibson Bros. et al's Johnson 1, elev 2432 ft, top salt 720 ft, dr 810 ft. Gulf Prod. Co.'s Hutchings 7, elev 2648 ft, top anhydrite 910 ft, top salt 1162 ft, flowing 32 bbls oil and 5 mil ft gas, dr 2490-2525 ft; O'Brien 17, top salt 1085 ft, dr 1170 ft. Harkinson et al's A. Emory 1, dr 505 ft. Magnolia Pet. Co.'s Sealy-Atlantic 1, elev 2686 ft, top anhydrite 1505 ft, set cas 2223 ft, dr 2225 ft. R. F. Owen et al's Johnson 1, elev 2499 ft, top salt 1600 ft, dr 3800 ft. Peck et al's Geo. Merritt 1, co 790 ft. Rector Oil Co.'s Smith 1, machine. Rickford & Fugler's Boogher 1, top salt 790 ft, testing oil pay 2240 ft. Shipley Oil Corp.'s Monroe 1-A, elev 2655 ft, top salt 2485 ft, sd anhydrite 3803 ft; Hayzlett 5, sd after shot, td 2507 ft. Simms Oil Co.'s M. Himmel 1, rig. Chester Smith et al's Boogher 1, dr 2155 ft. White et al's L. H. Owenby 1, dr 555 ft.

WINKLER COUNTY—Magnolia Pet. Co.'s Bashara 1, elev 2884 ft, top anhydrite 829 ft, top salt 996 ft, top lime 2317 ft, dr out cement plug 3200 ft, td 3367 ft.

CENTRAL EAST TEXAS

BOWIE COUNTY—Mayfield Oil Royalties & Devore's R. B. Cooper 1, W. M. Ward sur, elev 360 ft, sd 1050 ft. Parkington & Jones et al's W. W. Whybark 1, J. H. Dyer sur, dk. W. A. Swift-G. W. Hindman & Tom Ball's Roy Merritt 1, Y. S. McKinney sur, dr 3010 ft. Lee J. Timberlake et al's J. M. Tidwell 2, L. M. Rice sur, elev 290 ft, top Annona chalk 1305-1805 ft, show oil 2698 ft, tested salt water and sd 2705-09 ft.

CASS COUNTY—R. G. Baker et al's W. R. Kaver 1, John Lick sur, lcn. S. D. Hunter et al's M. Felkner 1, J. L. Chambers sur, elev 248 ft, top Pecan chalk 2373 ft, dr 3315 ft. Geo. B. McCamey et al's R. E. Hall 1, H. Buckler sur, rig. C. E. Murdock et al's G. W. Coody-First Nat'l Bank 1, Evans Watson sur, elev 401 ft, Pecan chalk 2522-2953 ft, coring 3205 ft. Morris et al's Henderson 1, Bailey sur, dk. Olds-Smith et al's Joe Athney 1, J. C. Byers sur, sd 1650 ft. Pigg & Davis' Ray Bryan 1, Albert Latimer sur, dr 1160 ft. John C. Rogers et al's W. Q. Henderson 1, Wm. Davis sur, elev 354 ft, sd 955 ft; Lanier 1, K. A. Welborn sur, elev 366 ft, sd 1930 ft. Smith-Adkisson et al's Wilson 1, J. A. McFarland sur, rig.

CHEROKEE COUNTY—Ben Banner et al's A. S. Lacy (80-ac) 1, J. L. Hogg sur, rig. D. H. Byrd et al's Fariss 2, elev 215 ft, dr limey-shale 3710 ft. Fain-McGaha Oil Corp.'s W. A. Shaw 1, I. Reed sur, lcn. Helen Clair Oil Co.'s Mrs. M. B. Perkins (200-ac) 1, Thos. Sanford sur, dk. H. M. Jones et al (was Gray's Kyle 1) McLee 1, J. McKnight sur, dr 145 ft. O. W. Killam et al (was McDonald Bros.) W. A. Newton 1, Thos. Quevedo sur, sp and sd. Rowan-Nichols Oil Co.'s Ousley 1, T. L. Smith sur, dr 1425 ft. Wm. A. Stone et al's E. M. Decker 1, Geo. Ruddle League 1, dr chalky shale 3460 ft. Sinclair O&G Co.'s Martin 1, Larkin Baker sur, rig; J. R. McRae 1, F. J. Ballnova sur, elev 335 ft, base Pecan chalk 3250 ft, dr 3310 ft. Walton Oil Co. (was Lee et al's) E. Singletary 1, Tillman Water sur, sp.

DELTA COUNTY — The Delta Co.'s M. Neatherly (26-ac) 2, J. B. Alexander sur, coring 2870 ft. D. S. Hoad et al's J. J. Baker 1, R. Carosn sur, elev 437 ft, sd 1550 ft. Worthington-Stedham et al's W. H. Dejernett 1, E. Chick sur, elev 492 ft, sd 1925 ft.

FRANKLIN COUNTY — Harper-Byers Oil Co.'s A. J. Laws 1, D. G. Rogers sur, sd 2855 ft.

FREESTONE COUNTY—Hicks et al's C. Lampier (100-ac) 1, D. Avant sur, lcn. E. L. Smith Oil Co.'s Emily Jackson (300-ac) 1, Wiley Carter sur, rig.

HENDERSON COUNTY—Arcadia Ref. Co. & Shell Pet. Corp.'s Dean 1, Simon Boon sur, dk. Westyde Inv. Co.'s Thornhill 1, Jas. Spivey sur, lcn.

LAMAR COUNTY—K. O. Bundy et al's G. S. Legate 1, J. V. Cheney sur, rig. Everett & Allen et al's J. A. Guest 1, Luke Roberts sur, top Pecan chalk 2072 ft, dr 2365 ft. Puritan Oil Co.'s Geo. Parr 1, R. Russell sur, dk.

LEON COUNTY—Sun Oil Co.'s Ella Grayson 1, Marquette Blk., dr sandy-shale 3370 ft.

MORRIS COUNTY—Verne Dumas Pet. Co. et al's Thos. Ball 1, A. S. Young sur, dk. Holmes-Nelson & Flynn's O'Conner Bros. 1, J. B. Cherry sur, dr 550 ft.

NACOGDOCHES COUNTY—Beach, Scully & Harwell's Driver 1, Torres sur, dr 700 ft, sand. Benedum & Trees' Conkrite 1, Chireno sur, dr 1550 ft, shale. C. M. Bowie's Miller 1, Strode sur, ru. J. F. Burke et al's Pattison 1, de los Santos sur, sd 4270 ft. Fain & McGaha's Pirtle 1, Edward sur, lcn. Matthew Foreman's Mattauer 1, Chireno sur, ru. Sequoia Oil Co.'s Boyd Estate 1, Oliver sur, ru. John Starks et al's Langford 1, dr 3680 ft, coring. W. W. Wheeler's Parmalee 1, Kirby sur, sd 2006 ft. E. L. Chapman-Tilford's Hunt 1, Bennett sur, dk. Joiner-Henson's Legg 1, Durst sur, ru. J. C. McNeal's Hayter 1, Boren sur, ru. Bunte, Martin and Scroggins' Boatman 1, 14 mi n Nacogdoches, ru.

RAINS COUNTY—Berry-Hale et al's Owenby 1, J. Alexander sur, dk. Rains County Oil Corp. (R. A. Westbrook's) Wm. Cates 1, Calvin Gage sur, top Pecan chalk 2232 ft, sd 3100 ft.

RED RIVER COUNTY—E. L. Chapman et al's Morris-Guest 1, S. Larkin sur, sd 2745 ft. Droppleman & Bundy's J. W. Cunningham 1, S. V. Chi sur, sd 2745 ft. Echols & Peters' E. Howison 1, W. Humphries sur, dk. Everett & Allen et al's W. F. Bryan 1, P. Vaughan sur, dk. Pierson et al's J. R. Dellahunty 1, sp and sd. Johnson Pet. Co.'s S. C. Style 1, E. M. Dean sur, sd 2405 ft.

ROCKWALL COUNTY—A. W. Walker & Son's M. S. Jones 1, S. Simmons sur, sd 700 ft; Paul Snow 1, J. E. Sherwood sur, sd 926 ft.

RUSK COUNTY—Dan S. Brooks & Root Ref. Co.'s Alford 1, J. D. Reel sur, top Pecan chalk 2560 ft, dr chalk 3460 ft. Carolyn Oil Corp.'s E. C. Carey 1, John Piburn sur, lcn. R. W. Giles-Frank Melat et al's Newt Orr 1, Wm. Tippett sur, dr 910 ft. F. Griffith et al's F. J. Lowe 1, Wm. Williams sur, elev 366 ft, top Pecan 2790 or 2820 ft, sd chalk 3106 ft. J. S. Kimbrough et al's Weathely 1, Robt. Martin sur, sp and sd. E. C. Laster, Inc. & Miller's B. B. Gray 1, Jas. McLean sur, dk. Morefield Drlg. Co. & B. T. Head, Jr.'s, Jessie Ector 1, Daniel Clark sur, Pecan chalk 2420 or 2451 to 2920 ft, top Austin chalk 3455 ft, show oil 3516 ft, then Georgetown lime 3518 ft, dr lime 3675 ft. Rusk County Oil Co.'s Robertson 1-A, sd 1363 ft. Nat. Sadler et al's Ed. Sparks 1, Abner Nail sur, set cas 1270 ft.

SMITH COUNTY — Big Indian Oil Co.'s Mills-Wolford 1, Jas. Jordan sur, elev 420 ft. rig; Holland 1, Thos. Allen sur, sd 2230 ft. E. L. Chapman et al's Alexander 1, sp and sd. East Texas Ref. Co.'s Tyisha 1, R. Wilson sur, rig. Howard Pet. Co.'s Lee Holt 1, Barnes Clark sur, top Pecan chalk 2840 ft, dr 3150 ft. H. L. Hunt et al's W. R. Fair 1, McAnulty sur, dr 1625 ft. Imperator Oil Corp.'s I. M. Green (53.3-ac) 1, T. Hogan sur, sp and sd. C. M. Joiner et al's W. M. Wright 1, E. Van Sickle sur, top Pecan chalk 2360 ft, dr chalky-shale 2820 ft. C. C. Julian Oil & Roy. Co.'s Motley 1, J. T. Daniel sur, lcn. Guy V. Lewis et al's R. G. Wright 1, M. G. Henriguez sur, dk. Magnolia Pet. Co.'s J. R. Wright 1, J. Vargus sur, dk. C. R. Morrison et al's I. Roy 1, H. C. Cook sur, sp and sd. Owen-Sloan Oil Co.'s M. Starnes 1, Sam Epps sur, rig. M. M. Rowan et al's Gibbons Mfg. Co. 1, J. Magarcia sur, dk. Ruffin-Kilgore Oil Co.'s H. Florence 1, Barnes Clark sur, Pecan chalk 2775-3183 ft, dr 3210 ft. Sinclair O&G Co.'s Jarvis 1, Juan Vargus sur, elev 389 ft, top Pecan chalk 2715 or 2728 to 3065 ft, dr 3080 ft; Mayfield Co. 1, Jas. Jordan sur, rig; Mayfield Co. 2, dr 300 ft; A. Wiley 1, elev 537 ft, top Pecan chalk 2887 to 3222 ft, dr 3300 ft. T. B. Slick Est. & J. G. Kugle, Jr., et al's M. Freeman 1, A. J. Lagrone sur, elev 498 ft, Pecan chalk 3080-3275 ft, fsh 3623 ft. Sun Oil Co.'s J. J. Denton (147½-ac) 1, J. Vargus sur, dk; O. W. Knight (264-ac) 1, David Collins sur, dk. The Texas Co.'s M. Blackwell (100-ac) 1, Jas. Jordan sur, rig. C. L. Witherspoon Oil Co.'s T. O. Wright 1, J. Vargus sur, dr 1650 ft.

UPSHUR COUNTY—Arcadia Ref. Co.'s P. S. Johnson 1, J. H. Mallory sur, rig. Dr. F. F. Beeler et al's R. H. McClelland 1, M. P. Torres sur, dk. Breman & Woods' Robertson 1, J. Stephenson sur, dr 1590 ft. J. W. Green et al's J. W. Wooden (160-ac) 1, Isham Williams sur, dk. J. W. McCullough et al's John Copeland 1, M. Mann sur, lcn. Mudge Oil Co.'s J. D. Richardson 1, D. Ferguson sur, elev 451 ft, top Pecan chalk 2622 ft, dr chalk 3090 ft. Penn Oil Co. et al's O. B. Gage 1, J. B. Davenport sur, elev 377 ft, top soft Pecan chalk 2574 ft, top hard chalk 2634 or 2916 ft, top Austin chalk 3610 to 3688 ft, top Woodbine sand showing salt water 3668 or 3765 ft, sd in Georgetown lime 4035 ft. McPhail-Smith & E. R. Perkins' Kay 1, T. G. Elliott sur, cem cas 180 ft.

WOOD COUNTY—Wood County Dev. Co.'s M. M. Rick 1, Daniel Fuller sur, sd 1500 ft.

TEXAS GULF COAST

ANGELINA COUNTY—R. D. Moore's Abney Estate 1, John Tuinalty sur., sd 1350 ft. Pollock Oil Co.'s Sessions 1, Garza sur., sd 2380 ft.

AUSTIN COUNTY—O'Hara et al's Schrader 1, Hacienda sur., sd 3480 ft. Empire's Kunze 1, San Felipe, dr 6600 ft, lime. Parmeson & Cafferkey's Scholeckte 1, Fitzgibbons sur., dr 600 ft, shale. Humble's Remmert 1, lcn.

BRAZORIA COUNTY—Thos. Faust et al's Fee 6, 2 mi s Nash Dome, stdg 6220 ft. United Oil Synd.'s Speer 1, 3 mi n Danbury, washing to bottom, 1830 ft. Freeport Sulphur Co.'s Fee 2001, Bryan Mound, sd 5140 ft. Layne et al's Wisdom 7-A, Damon Mound, set 3 joints scr., 3700 ft. The Texas Co.'s Ewing 1, Manvel, abn 7648 ft. Rycade & Amerada's Seaburn 2, stdg 7300 ft.

BURLESON COUNTY — Doran et al's Sparks 1, ne part of county, fsh 1300 ft. Mid South Oil Co.'s Duckworth 1, 2 mi e Clay Station, sd 2590 ft. Renolds Oil Co.'s Harris 1, 4 mi se Criesman, sd 400 ft.

CALHOUN COUNTY—The Texas Co.'s Smith 1, Choclate Creek, dr 4100 ft, shale.

CHAMBERS COUNTY—Pure Oil Co.'s Mayes 13, Lost Lake, ru.

FAYETTE COUNTY—Elam & Reynolds' Florence 1, dr 1030 ft, sand.

FORT BEND COUNTY—Gulf's Moore 29, Moores field, lcn.

GALVESTON COUNTY—Yount-Lee Oil Co.'s Cade 20, ru.

HARDIN COUNTY—Pearce & Proctor's Russell 40, lcn. Rio Bravo Oil Co.'s Fee 112-A, lcn. The Texas Co.'s Fee 307, Sour Lake, stdg 3000 ft.

HARRIS COUNTY—Humble's Minntex 5, Mykawa, ru; Minnetex 6, ru. Rio Bravo Oil Co.'s Settegast 21-A, Pierce Junction, ru; Westheimer 1, lcn. Smith & Hamil Dr. Co.'s Parsons 1, lcn. Smith et al's Fee 3, prep to pump. Tilton & Perot's Gulf Jones Fee 1, comp for 360 bbls, 3807 ft.

HOUSTON COUNTY — A. E. Winfree's Hodges 1, Russell sur, lcn.

JEFFERSON COUNTY—Humble's McFaddin 1, 8 mi e Big Hill, dr 6580 ft, sand and shale. Keith et al's Reed-Hankamer 1, 3 mi ne Westbury, dr 4170 ft, gumbo. The Texas Co.'s Pipkin 4, Big Hill, dr 5620 ft, shale. Yount-Lee's McFadden 145, Humphrey sur, lcn.

LIBERTY COUNTY—Gulf's Boyt 13, Allen sur, dr 1160 ft, sand. Humble's Breeden 2, Moss Bluff, dr 6470 ft shale; Sergent 2, stdg 5890 ft. Texas Gulf Sulphur Co.'s Cowan 1, dr 850 ft, sand.

MATAGORDA COUNTY — Cockburn Oil Corp's Hawkins 2, Shepherds Mott, prep to d d, 5240 ft. Empire's Boker 1, Citrus Grove, dr 5600 ft, sand.

MILAM COUNTY—Del-Tex Oil Corp.'s Dulbeck 1, Rodriguez Zur., lcn.

MONTGOMERY COUNTY — Lake Creek Oil Co.'s Hunt 1, s Conroe, changing rigs. White & Hornbeck's Lieberman 1, 2½ mi w Conroe, stdg 3552 ft.

ORANGE COUNTY—Crews Oil Co.'s Mansfield 1, changing rigs.

POLK COUNTY—Freeman et al's Freeman 2, 4 mi se Leggett, dr 2620 ft, shale.

SAN AUGUSTINE COUNTY—Lambeau Thompson Dr. Co.'s Whitton 1, Sarah Welding sur, lcn.

TYLER COUNTY—King Oil Co.'s Caswell 1, sd 1250 ft. Allied Pet. Corp.'s Wilson 3, dr 4770 ft, lime. L. H. Wentz' Long Bell Lbr. Co.'s 1, Seale sur, dr 2920 ft, shale.

WASHINGTON COUNTY—Cord Oil Co.'s Hahn 1, 6 mi n Brenham, dr 1880 ft, shale. Penn-Tex Oil Co.'s Kamas 2, Brenham, dr 1410 ft, shale. Sun Oil Co.'s Clay 5, Clay

Creek, dr 1550 ft, sand; Janner 5, Gay Hill, dr 570 ft, shale; Marcus 3, lcn; Schlottman 3, lcn. Yegua Oil Co.'s Graves 1, 3 mi w Independence, ru.

WHARTON COUNTY—H. H. Hudgins 3, 2 mi e Hungerford, dr 1550 ft, gumbo and lime.

SOUTH TEXAS

ATASCOSA COUNTY—Bender & Cullen's Medina Irrigated Farms 1, sw corner W. Klempcke sur No. 439, dr below 3000 ft.

BASTROP COUNTY—Turner, Wharton & Anderson's J. E. Harris 1, Joshua Gray sur, 3 miles n Dale pool, no report.

BEE COUNTY—Alexander et al's McFall 1, 3 m s Skidmore, sd 305 ft. Catlett and O'Neill's Miller 1, Ronald Hoskiss sur, 8 miles w Beeville, reaming 3905 ft, showed 1500 ft salt water and slight trace of oil on drill stem test at 3823-37 ft. Mineral Oil Co. (Mauldin and Fisher's) A. J. Kimball 1, Stephin Winship sur, 7 miles sw Pettus, 300 ft s and 21 degrees e of Grayburg-Kimball well, swabbing some oil and gas, total depth 3544 ft, casing set 3535 ft, sand 3537-40 ft. Hicks et al's Billingsly 1, B. Q. Hadley sur, one mile ne Grayburg well, abn 3550 ft. Moody-Seagraves Producing Co.'s McKinney 2, near McKinney 1, Geo. Habbermacher sur, 3 miles n Pettus pool, dk. J. A. Mauldin's Mauldin 1, Geo. A. Kerr sur, just sw of Pettus townsite, still sd at 3862 ft, recently showed 125 pounds pressure, little gasoline and mud on drill stem test of sand at 3847-54 ft. United Production Co.'s Ray 33, between Pettus and discovery pools, Geo. A. Kerr sur, set 6⅝ inch casing at 3988 ft over sand topped at 3989 ft, showed heavy oil saturation; Ray 36, 1292 ft n production in T. Hanson sur, discovery pool, completed 335 bbls on one-half inch choke, 350 pounds working pressure, sand 3930-40 ft, 6⅝-inch casing set 3928 ft; Ray 38, 900 ft e and 10 degrees s of No. 35, present fartherest east producer in field, T. Hanson sur, ru.

BEXAR COUNTY—Russell & Moore's A. O. Mills 3, A. Navarro sur, sd 938 ft. J. Morgan Russell's Price-Story 1, A. Navarro sur, 10 miles s of San Antonio on Somerset road, dr 1085 ft in hard rock. Uechert et al's Palfrey 1, 7 miles se of San Antonio, near Brooks field, cored dry formation at 1803 ft, described as Edwards lime. Weilbacher and Brock's Ernest 1, J. Christopher sur, 2 miles n Somerset, sd 925 ft.

BLANCO COUNTY—Hardy Sitton's Standeford 1, (formerly Lysles and Adams) James Standeford sur No. 155, sd 952 ft. Meeks et al's Walker 1, ne corner Noel Nixon sur, No. 53, four miles n Blanco City, dr around 1050 ft. Forest Oil Co. (Rosenfield et al's) Hohenberger 1, sur 94, sd below 550 ft. Hardy Sitton's McMillen 1, Benjamin Williams sur No. 125, 2 miles w Blanco City, dr 786 ft.

BROOKS COUNTY—The Texas Co.'s Allen Land and Cattle Co. 1, in 7110-acre San Antonita grant, ru. Ed East's Garcia 3, Las Mastena y Gonzalene Grant, abn 960 ft. Houston Oil Co.'s Wormser-Holbein 3, Palo Blanco de Maguellas grant, dr 4703 ft, tested dry in sand at 4507-15 ft.

CALDWELL COUNTY — J. E. Mills and Chapman's McMahon 1, 6 miles se Lockhart, Pinchback sur, sd 2295 ft for repairs on rig, made small producer at 2183 ft, but drilled deeper. Rayor et al's Dunlop 1, near Luling, topped chalk 2092 ft, topped Del Rio, 2325 ft, now drilling 2415 ft. Harper et al's Strawn 1, near Lytton Springs, dr around 1700 ft at last report. V. F. Neuhaus and Camp's J. B. Moore 1, William Clinton sur, ¾ mile nw Mills test, 6 miles s Lockhart, abn 2515 ft in Edwards lime.

COMAL COUNTY—Caldwell and Lanier's T. J. Byler 1, HE&WT sur No. 2-894, 10 mi s Blanco City, no report.

DE WITT COUNTY—Gibson and Strum's Clark 1, 1 mi n and little w Slick pool, Dolores Aldereta sur, dr 900 ft.

DUVAL COUNTY — Humble O&R Co.'s Kohler 50, sur 164, Kohler pool, dr 5968 ft. O'Byrne et al's Weil Bros. 1, BS&F sur No. 568, 7 mi sw S&O pool, repair boiler at 1720 ft. Southern Oil Co.'s King Harper 2, sur 232, lcn. S. J. Carpenter's (Gus Pape) Juan Benavides 1, Carpenter sub, Mesquite grant, sd 100 ft.

FRIO COUNTY—Wray & Dunbar's Barnes 1, 1 mi from Big Foot, sec 123, setting 5 3/16 inch casing at 3662 ft.

GOLIAD COUNTY—Gibson Oil Co.'s Parks 1 (wo) 5 mi ne Goliad, bailed dry twice, now sdtr, casing set 4520 ft, plugged back to 4555 ft from 5267 ft. Slick Estate's Riedel 1, 1830 ft sw Poetter discovery test, W. C. Brown sur, dr 4530 ft, sand and shale from 4230-4300 ft, failed to develop production.

GONZALES COUNTY—Linden Pet. Co.'s Cowley 1, n part of county, dr 4709 ft, Edwards topped 4687 ft, prep to abn.

JIM HOGG COUNTY—Mag. Pet. Co.'s Y. V. Cuellar 1, W. A. Dannelly sub, blk 92, sur 575, El Peyote Grant, dr 3196 ft in hard sandy lime. P. & M. Oil Co.'s (Peterman and Minahan) Palacios 1, 2 miles s 10 degrees e Randado field, blk 14, sur 231, sd 1360 ft.

JIM WELLS COUNTY—Blair & Son and Stewart's M. Perez 1, sec 9, blk 16, no report. Carsil O&G Co.'s McGill 2, 900 ft due n No. 1, Wm. D. Baldwin sur, 3 miles n Armagosa, spudded.

KARNES COUNTY — Karnes County Dev. Co.'s (Pickett et al) W. J. Hubbard 1, 3 miles w Kenedy, dr 3230 ft.

KENDALL COUNTY—Perkins et al's Lawhorn 1, ne Boerne, put new rig over hole, to re-dr, pres td abt 600 ft. Hardy Sitton's W. B. Garvin, D. L. Richardson sur, 1 mile ne Kendalia, dr 1070 ft.

KERR COUNTY — Col. B. M. Hartridge's Townsite 1, blk 32, Westland Addn., dr around 500 ft. Evans and Gant's Jeff Love 2, sw corner sec 1593, one-half mile se discovery well, prep to move on; Seiker and Mears 1, sw corner sec 1605, CCSD&RGNR Ry. sur, 2 miles ne Love test, dr 1420 ft. Mims et al's J. E. Young, nw cor sec 28, north and slightly e of Jeff Love test, move on remainder of machinery, to spud.

KLEBERG COUNTY—Barbee and Hunter's Finnegan 1, nw corner of tract, 7 mi s Kingsville, mov on.

LA SALLE COUNTY — Fred W. Volz's Coleman 1, blk 15, sur 514, sd 40 ft.

LIVE OAK COUNTY — Burke Greise Oil Co.'s Geo. West 1, near Geo. West townsite, abt center of James Vaughan sur, mov on. Houston Oil Co.'s T. G. Parr 1-A, John McMillen grant, ¾ mi s Brown Land & Cattle Co. 4, dr 2780 ft in shale and lime; Brown Land and Cattle Co. 4, sw corner M. B. Kivlin sur, reaming 5686 ft. Simmons Oil Co.'s Wedding 1, 2 mi n Three Rivers, dr around 900 ft at last report.

McMULLEN COUNTY—V. F. Neuhaus and Stanolind O&G Co.'s J. O. Massey 1, ½ mi s Lomo Alto townsite, dr 3450 ft.

MEDINA COUNTY — Yancey Dev. Co.'s Faseler 1, 1½ mi n Yancey sur 801, dr 1150 ft.

NUECES COUNTY—Saxet Oil Co.'s Dunn 8, Saxet field, dk. Houston Oil Co.'s Ollie Purl 1-B, blk 7, R. Peters sur, dr 6018 ft.

REAL COUNTY — Gant and Kilgore and Eastland Oil Co.'s Dan Auld 1, sec 23, CCSD &RGNR Ry. sur, 3 miles sw Love Producer, dr 2498 ft. Evans and Sprinkle et al's Haby 1, sec 175, AB&M sur, 7 mi sw Love producer, dr 1502 ft.

REFUGIO COUNTY — Houston Oil Co.'s Rooke 14, 3 miles w production in old gas area, dr 6126 ft.

SAN PATRICIO COUNTY — Aransas Oil Co.'s Welder 1, 500 ft ne Houston Gulf Gas Co.'s (Union) Welder 3, 5 mi ne Sinton, setting 6⅝ inch csg at 3652 ft, tested 825 lbs. pressure on one-fourth inch choke in four minutes, sand 3653-63 ft. Union Prod. Co.'s Cage 3, White Point, dr 3335 ft. Saxet Oil Co.'s White Point Dev. Co. 4, coring 4384 ft.

STARR COUNTY—Willow O&G Co.'s Kelsey Bass 1, blk 8, sub of Porcion 75, 76, 77, Jurisdiction of Camargo, dr 490 ft. B. B. Tipps' Frank Doyno 1, lower tract No. 4, Porcion 81, dr 210 ft. Los Olmos Oil Co.'s Kelsey Bass 3, blk 6, sub of Porcion 75, 76, 77, Jurisdiction of Camargo, eight miles n Rio Grande City, completed for abt 3,000,000 cu ft gas, four inch csg set 400 ft, sand 403-7 ft. Sacremento Oil & Gas Co.'s Seabury et al 1, sd 349 ft.

VICTORIA COUNTY — Lion O&R Co.'s McFadden 3-A, Maria J. Traviesa Grant, C. O. Edwards sur, McFadden district, cored sandy shale 3605 ft, now dr 3638 ft. Simpson-Fell Oil Co. and Westheimer et al's Levi 1, 10 mi s Victoria, 15 mi ne McFadden field, spudded. T. B. Slick Estate's McFadden 1, ne Lion's producers, spudded. The Texas Co.'s McFadden 3, west of No. 2 wild gasser, lcn to be made. United Prod. Co.'s McFadden 1-B, 5700 ft e and slightly n of Lion's producers, temp abn 3893 ft, where it showed four fourbles of sw.

WEBB COUNTY—Cole Pet. Co. (Carson's) Benavides 2 (formerly listed as 4), sur 1601, dr 1050 ft. O. W. Killam's Killam 1, sur 1617, Reiser area, abn 2900 ft. Geo. S. Marshall's C. W. Webster 3, sur 684, Carolina-Texas area, dr 3000 ft. Carolina-Texas O&G Co.'s Barnsley 9, blk 13, sur 268, Carolina-Texas area, dr 1900 ft.

ZAPATA COUNTY — Benson Oil Co.'s S. Vela 1, blk 12, sur 259, dr 1290 ft. E. C. Brogan's Montemayor 1, blk 11, sur 64, Muckelroy area, spudded. W. T. Bill Henry's Gopher Trust Estate 1, blk 10, sur 4, Fullerton sub of Share 8, Borrego Grant, dr 1400 ft. O. W. Killam's Bustamante 5, blk 7, share 5, Fansler Partition, Comitas Grant, abn 1451 ft; A. Bustamante 6, blk 8, share 5, Fansler Partition, Comitas Grant, ru; Cuellar 40-C, sur 278,dk. Lowe and Rogers' P. Benavides 2, blk 13, sur 613, Andrews area, ru. P. H. Meyers' I. G. Trevino 1, blk 24, sur 412, dr 1800 ft. National Oil Co. of Texas' Luther et al 1, blk 97, Da Pron sub, ne ½ Porcion 6, sd 590 ft. Nielson and Coursey's Luther et al 1, blk 11, sec 5, Fullerton sub of Share 8, Borrego Grant, sd 1148 ft. Nordan and Morris's (Bateman) Jose Bustamante 1, share 35, Fansler Partition, Comitas Grant, show little oil, no water, no gas in sand at 1321-26 ft, coring deeper. J. I. Newton's I. G. Trevino, blk 7, sur 66, lcn. O. & A. Company's Garcia 3, share 3, Fansler Partition, Comitas Grant, sec 6⅝-inch casing 1209 ft, sand 1204-18 ft, showed oil and gas. Penny Production Co.'s Juan V. Cuellar et al 1, blk 1, sur 2, Pappas sub, Porcion 33 and 34, dr 2035 ft. W. R. Shankle's Garza 3, blk 10, sub of Zorro ranch, Comitas Grant, completed for 25 bbls after plugging back to total depth of 1376 ft, casing set 1370 ft, sand 1372-76 ft. F. A. Talmadge and G. Mackenzie's G. F. Trevino 1, blk 6, sur 4, Marts and Beavens sub of Porcion 2 and 3, sd 519 ft. T. H. Ward's Uribe 1, blk 8, share 7, Partition 6, Trinidad Uribe Partition of Juan V. Borrego Grant, rigged up and standing.

EAST TEXAS

HARRISON COUNTY — Hunter et al's Daugherty 2, W. B. Burris sur, 12½-in cas 245 ft, ta in Georgetown 3563 ft. Karona Pet. Co.'s A. J. Bohler 1, S. F. Sparks sur, elev 310 ft, top Nacatosh 1437 ft, top Georgetown 2812 ft, contract depth 3300 ft. O. H. Parkening's T. J. Taylor 1, Walter H. Payne sur, rig. T. J. Taylor 2, J. C. Hawley sur, dk. Rowan & Nichols' Henry Pitts 1, E. A. Merchant sur, lcn. Crump & Hannagan's Dunn 1, Bettie Humphries sur, elev 330 ft, base Pecan Gap and top Saratoga 2830 ft, ta 4006 ft. W. G. Ray Drilling Co.'s Hall 1, D. Davis sur, 10-in cas 173 ft, top AC 3445 ft, base AC 3471 ft, top Pecan Gap 2257 ft, base Pecan Gap 2859 ft, top Georgetown 3472 ft, sd, wo. Siegel Bros. et al's T. J. Taylor 1, F. O'Neal sur, lcn. Sinclair O&G Co.'s Davenport 1, J. V. Morton sur, elev 396 ft, top Pecan Gap 2420 ft, base Pecan Gap 2960 ft, tested dry through ds 5 ft sand 3693-98 ft, sd, wo 3735 ft. Geo. L. Pace's Barker 1, Victor Pedrosa sur, sd 1478 ft. Banner et al's Lowry 1, W. O. Stanfield sur, sd in broken chalk 2136 ft. Ryan Cons. Pet. Corp.'s H. H. Key 1, E. Carroll sur, rig. Everts Drilling Co.'s Sypert 1, Richard Hooper sur, dk. Bivens 1, T. K. Pearson sur, lcn. Alford et al's Bolding 1, W. O. Stanfield sur, rig.

MARION COUNTY—Trammell et al's Hussey 1, Chas. Lockhart sur, elev 282 ft, top chalk 1771 ft, 8¼-in cas 1514 ft, junk in hole, ta 1878 ft. Rondeau & Hindman's McGaugherty 1, W. J. Wills sur, co to deepen, td 2450 ft. Hindman et al's Lindsay 1, Alex Albright sur, sd 400 ft. J. W. Hamilton's Wood 1, Alex Albright sur, sd 400 ft. Eden Oil Co.'s De Ware 1, R. Hazelwood sur, elev 208 ft, 10-in cas 400 ft, top Pecan Gap 2105 ft, dr chalk 2340 ft, Sinclair O&G Co.'s Wright-Braden 1, Jacob Grover sur, elev 336 ft, top Georgetown (?) 3451 ft, coring 3463 ft. D. R. Coulter 1, Wm. Russell sur, elev 376 ft, coring shale 3824 ft, (no AC). Gist Claunch et al's Laun 1, Henry Fugham sur, rig.

PANOLA COUNTY—Smith et al's Hunt 1,

Albert Johnson sur, dk. Bell et al's Burnett Lbr. Co.'s 1, S. B. Hendrick sur, elev 186 ft, sd 3335 ft. Dillon & Bradham's Baldwin 1, Hampton West sur. 12¼-in cas 43 ft, claim top Pecan Gap 1500 ft, sd 1555 ft. United Prod. Corp.'s Steele 17, B. C. Jordan sur, lcn (Trinity test). Daisy O&G Co.'s Rucks Hrs. 1, Jno. Palmer sur, 12½-in cas 780 ft, top chalk 1352 ft, 8¼-in cas 1900 ft, sd 2600 ft. Neff et al's Brumble 6, B. C. Jordan sur, dk (Trinity test). Texas Co.'s Brumble 12, Jno. Womack sur, 10-in cas 1200 ft, dr lime 3350 ft (Trinity test). Ark. La. P. L. Co.'s Werner Sawmill 3, B. J. Jordan sur, 12½-in cas 142 ft, 9-in cas 3448 ft, cemtd 7-in cas 4650 ft. Everett Prod. Co.'s E. L. McDaniel 1, Alamson Barr sur, sd 350 ft (third hole, all shallow). Moses & Wallace's C. L. Daniels 1, Isabel Hanks sur, dk pat.

SABINE COUNTY—Loring Oil Co.'s Nona Mills Lbr. Co. 1, Jas. Mason sur, ta 4803 ft.

SHELBY COUNTY—Sloane Prosp. Co.'s T. B. Sandford 1, M. M. Vann sur, rig. Windham 1, A. H. English sur, sp, dr 170 ft. Chapparral Oil Co.'s Holt 2, Matthew Moore sur, sd, wo rotary, td 3111 ft. I. M. Bradley et al's J. J. Asberry 1, G. W. Mitchell sur, mov in rig. E. L. Chapman's Pickering Lbr. Co. 1, C. F. Henry sur, 10-in cas 240 ft, ds recov, dr shale 2340 ft. Maulding et al's Frost Lbr. Ind. 1, A. B. Fountain sur, arr set 12-in cas 500 ft. H. H. Gracey's J. A. Morrison 1, Wm. English sur, mov in rig. T. A. Martin's J B. Bush 1, Alfred Lindsey sur, dk.

NORTH LOUISIANA

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CONCORDIA PARISH—		
United Gas Pub. Serv. Co., Miller & Smith 1, 33-8n-9e	*	1504
TENSAS PARISH—		
Seip et al, Fowler 1, 10-10-10e	*	1077

BIENVILLE PARISH—Jamestown Synd.'s Lawhon 1, sw ne 15-16-8w, show gas in sandy shale (Tokio), 6-in cas 2845 ft, fsh cas td 2854 ft.

BOSSIER PARISH—Andrews & Davlin's Nattin 1, 15-22-14, dry 2062-67 ft. Rambaugh et al's Allison 1, 10-19-13, sd 1100 ft. Flint River Oil Co.'s C. L. DeMoss 1, 22-22-13, rig.

CADDO PARISH—United Gas Pub. Serv. Co.'s Emmons 1, ne sw 27-23-16, 12½-in cas 363 ft, 9-in cas 3635 ft, 6⅝-in cas 5396 ft, dr lime 5411 ft. Fortner 1, nwc frac sec 5-22-16, 5-in cas 5430 ft, dr lime 5440 ft. Gordon M. Garry's Hatcher 1, nw ne 11-17-15, lcn, (5500 ft test planned). Pelican Nat. Gas Co.'s Cooper 1, 29-18-14, 15½-in cas 200 ft, cemtd 12½-in cas 1129 ft.

CATAHOULA PARISH—National Drilling Co.'s Marsh McMillan 1, 26-9-6e, 6⅝-in cas 2796 ft, tested sw, sd 3097 ft.

CALDWELL PARISH—Hudson et al's Burton 1, 36-12-2e, sd 2799 ft. Carter Bell et al's Taylor 1, 42-14-4e, rig.

CLAIBORNE PARISH—Baird Bros. et al's Whittaker 1, 30-27-7w, tested 5 fourbles mud and sw 2964 ft, sd 3000 ft.

CONCORDIA PARISH—United Gas Pub. Serv. Co.'s Miller & Smith 1, 33-8n-9e, 12½-in cas 159 ft, sw, abn td 1504 ft. Joe Marr et al's Maxwell 1, 38-3-8e, sd 3622 ft.

DE SOTO PARISH—W. H. Weichert's H. Smith 1, 31-14-15, top gas sand 1653 ft, top chalk 1901 ft, sd 2350 ft. Neff et al's Ramsey 1, 33-13-16, 12½-in cas 80 ft, bit lost in hole, sd 3000 ft. E. T. Oakes' Johnson 1, 30-13-15, dk and mov in rig.

NATCHITOCHES PARISH—C. M. Talley et al's Talley 1, 29-11-10, tested dry, show oil in bro sand and shale 1256-69 ft, bailed dry 1380 ft, sd, wo. W. M. Coates et al's Collins 1, sw nw ne 28-9-10, base Midway chalk 2612 ft, base hd lime 4039 ft, tested 15 joints mud and sw 4020-91 ft, ta 4091 ft. J. W. Cooper et al's 1, 35-11-10, sd 3156 ft. Cooper 2-A, 35-11-10, top chalk 1400 ft, sd 1515 ft.

RED RIVER PARISH—Lucky Strike Oil Co.'s Chaffraix 1, 33-12-10, junk in hole, ta 3010 ft.

SABINE PARISH—J. C. Walton's Sabine 1, ne nw 11-7-12, 6⅝-in cas 2119 ft, ds recov, tested dry, show oil, sd 2376 ft. Lacey Prod. Co.'s Cooper 1, 30-8-11, top chalk 2306 ft, 6⅝-in cas 2270 ft, hfo, wosr, td 2620 ft. Jean Longoria's Belton 1, 31-9-13, sd 1400 ft. Triangle Pet. Co.'s Sabine 2, 36-8-12, dk. D. M. Lide's Ponder 1, 15-7-11, hfo, wosr, td 2800 ft. Ponder 2, ne nw 15-7-11, 6⅝-in cas 2364 ft, show oil, sd, wo, 2420 ft. Jno. Woodley's Sabine 1, ne se 12-8-12, 10-in cas 103 ft, 6⅝-in cas 2310 ft. H. W. Perritt's Bowman-Hicks 3, 2-7-12, 6⅝-in cas 2206 ft, wosr, td 2293 ft. Bowman-Hicks 4, se ne 2-7-12, lcn. Boring 1, ne nw 11-7-12, 10-in cas 85 ft, cemtd 6-in cas 2238 ft. A. H. Thames' Edwards Est. 1, ne se 8-8-13, sp 10-in 100 ft, dr 500 ft. R. L. Gay, Tr.'s Long Bell Lbr. Co. A-1, ne nw 10-8-13, 12½-in cas 105 ft, dr 1750 ft. Jordan & Co., Inc.'s La. Long Leaf 1, sw se 3-7-11, 10-in cas 100 ft, 6-in cas 2352 ft, flowing est 400 bbls day with pckr and tube in hole, wo gauged td 2520 ft. Gautier et al's Meshell 1, se nw 30-8-12, sd 1230 ft (second hole). Ohio Oil Co.'s Bowman-Hicks 8, nw ne 2-7-12, sp, 10-in cas 199 ft, dr 1100 ft. Bowman-Hicks 9, nw se 35-8-12, lcn. Bowman-Hicks 10, sw ne 35-8-12, lcn. Bowman-Hicks 11, sw se 2-7-12, lcn. Durham Oil Co.'s Polly 1, sw ne 18-8-12, 10-in cas 105 ft, 8¼-in cas 2087 ft, base chalk 2595 ft, sod, wo, 2722 ft. Packard Oil Co.'s Davis 1, sw sw 8-7-10, elev 337 ft, 10-in cas 80 ft, 6⅝-in cas 2636 ft, top marl 2560 ft, bailed dry, arr deepen, td 2658 ft. W. M. Coates' Sabine 3, 1-7-12, 10-in cas 103 ft, dr 2000 ft. Sabine Royalties Co., Inc.'s Bill Hill 1, nw ne ne 5-7-11, 10-in cas 105 ft, top marl 2217 ft, 6-in cas 2230 ft, dr plug. Skinner 1, se sw nw 5-8-11, dk. Diffie & Barrett's Lites 1, 34-8-11, 10-in cas 105 ft, sd. Natural Gas Prod. Co.'s Sabine 1, 1-7-12, lcn. Sabine 2, 1-7-12, 6⅝-in cas 2382 ft, dry, wo 2600 ft. Sabine 3, 1-7-12, cemtd 6-in cas 2222 ft. Hawkins et al's Byrd 1, se ne 1-7-11, rig. Lyons & Neely's Baird Co. 1, 1-7-11, sp 10-in cas 100 ft, dr 400 ft.

TENSAS PARISH—Seip et al's Fowler 1, 10-10-10e, dry, abn, td 1077 ft. A. R. Willis' Curry 1, 39-11-12, fsh ds 3475 ft.

WEBSTER PARISH—D. M. Coyle's Frazier 1, ne se 27-23-11, dk. Cassidy & Davis' Nickerson 1, ne sw 29-23-10, sd 160 ft. Red Hawk Oil Co.'s Matthews 1, se nw 11-23-9, top chalk 2480 ft, dr chalk 2555 ft.

WEST CARROLL PARISH—United Gas Pub. Serv. Co.'s Pioneer Cooperage 1, 29-21-9, rig.

LOUISIANA GULF GOAST

ASCENSION PARISH—Gulf's United Land Co. 19, Sorrento, comp for 300 bbls 4874 ft. Triumph Oil Co.'s Lacey 2, sw offset Sorrento dome, stdg 4225 ft.

AVOYELLES PARISH — M. L. Vincent's Morrow 1, sd 4220 ft.

CALCASIEU PARISH — Wilfred Lahay's Jardell 1, 2 mi ne Vinton, sd 3258 ft. Dr. Thomas et al's Hewitt 1, 2 mi ne Edgerly, lcn. Vacuum's State 7, dr 5200 ft shale; Miller 12, stdg 3790 ft; Miller 32, lcn. Union Sulphur Co.'s Moss 2, Lockport, set 6⅝-in cas 6520 ft. slight oil show 6513. J. O. Davis' Industrial Lbr. Co. 1, Starks, show salt water and small amt oil 6568 ft. Crawford Doyle's Johnson 1, nw flank Starks, sd 370 ft. Union Sulphur Co.'s Fee 762, Sulphur, dr 7930 ft salt; Fee 765, dr 3390 ft, lime and gumbo; Fee 766, set 9¼-in cas 4187, slight show oil 4330 ft prep to d.d.

CAMERON PARISH — Freeport Sulphur Co.'s Gulf Land Co. 7, Black Bayou, lcn. Shell's Black Bayou State 2, dr 5320 ft salt. Vacuum's Cameron Meadows 2, dr 3000 ft shale. R. E. Seiss Tr.'s Vincent 2, Hackberry, sd 1820 ft. Magnolia's Sweet Lake Land Co. 2, Sweet Lake, sd 4870 ft. Pure's Yount-Lee 10, dr 7200 ft water sand.

IBERIA PARISH—Jefferson Lake Oil Co.'s Lake Peigneur 11, Jefferson Island, dr 850 ft lime.

IBERVILLE PARISH — Standard of La.'s Gay 1, Bayou Choctau, prep to d.d. 4170 ft; L. Baist 1, Bayou Blue, prep to core 3650 ft; Schwing 1-A, dr 6000 ft shale; Schwing 3, sd 2990 ft; Wilbert 9, Bayou des Glaise, set 13⅜-in cas 1220 ft; Case 2, t.a.

JEFFERSON DAVIS PARISH—A. V. Peters' Smith 1, Welsh, dr 940 ft gumbo.

LA FOURCHE PARISH—The Texas Co.'s Leesville 2, w.o. dr 3620 ft sand.

ST. LANDRY PARISH—The Texas Co.'s Botney Bay Lbr. Co. 9, Port Barre, prep to pump.

ST. MARTIN PARISH — Humble's Woodward 1, Bayou Bouillon, dr 6460 ft lime; State 4, dr 4710 ft sand and shale.

ST. TAMMANY PARISH—Washington & St. Tammany Dr. Co.'s Coussack 2, t.a. 2030 ft.

TANGIAPAHOE PARISH—Joan Dev. Co.'s Lake Superior Pil Co. 1, sd 3010 ft.

TERREBONNE PARISH—The Texas Co.'s Bay St. Elaine 1, prep to d.d. 4750 ft; Bay St. Elaine 6, lcn abn; Caillou Island 4, lcn abn; Four Isle 5, dr 560 ft rock; Lake Barre 6, ru; Lake Barre 8, prep to abn 6790 ft; Lake Barre 10, lcn; Lake Barre 11, lcn; Lake Barre 12, lcn; Lake Barre 13, cap pil; Lake Barre 14, lcn.

WEST FELICIAN PARISH—Putnam Synd's Como Plantation 2, dr 870 ft shale.

MISSISSIPPI

Completion

SMITH COUNTY (Raleigh Dist.)— Pocahontas Nat. Gas Co., Adams Banks Lbr. Co. 1, 10-3n-7e	*	3519

CLARK COUNTY (Quitman Dist.)—Gulf Ref. Co.'s Box 1, nw se 11-2n-15e, elev 221 ft, 15½ in cas 105 ft, 10-in cas 922 ft, top Midway black shale 2205 ft, top Selma chalk 2637 ft, base Selma chalk 3703 ft, coring green sand 3790 ft in Eutaw.

CLAY COUNTY—Ohio Oil Co.'s Cantrell 1, ne ne 16-15-5e, elev 270 ft, 13⅜-in cas 1389 ft, 9⅝-in cas 2929 ft, dr shale 3378 ft.

CHICKASAW COUNTY—Hightower & Golsan's Fleming 1, 20-13s-3e, wo, 6-in cas, td 1505 ft.

JASPER COUNTY— (Bay Springs Dist.)—Bay Springs Pet., Inc.'s J. H. Keyes 1, nw ne 21-2n-10e, 15½-in cas 104 ft, top Cane River 1090 ft, sd repr fire box 1182 ft.

MONROE COUNTY (Amory Dist.)*—Amory Dev. Co.'s Bourland 1, sw ne 2-15-19, sd in brown sand 3007 ft. P. J. McAlpine's Cowart 1, ne sw 2-12-19, 10-in cas 694 ft, 8¼-in cas 1276 ft, sd repr rig in sandy lime 1987 ft. Associated Royalties' School Board 1, sw se 16-15-17, sd 60 ft.

RANKIN COUNTY (Jackson Dist.)—Love et al's Muse 1, se se 32-7-4e, 12½-in cas 600 ft, sd, swaybracing dk, td in Wilcox brown shale and lignite 3100 ft (may go to 5000 ft). Love Pet. Co.'s Moore 1, se nw 28-6-2e, sd 900 ft. Millstein O&G Co.'s Gammill-Hartfield 1, sw ne 6-5-2e, hf fluid, sd, wo, 2500 ft. Atkisson et al's Valentour 1, nw nw 18-5-2e, dk.

SMITH COUNTY (Raleigh Dist.)—Pocahontas Nat. Gas Co.'s Adams Banks Lbr. Co. 1, ne sw sw 10-3n-7e, elev 425 ft, 10-in cas 441 ft, abn in water sand td in Wilcox 3519 ft.

WARREN COUNTY (Vicksburg Dist.)—Eagle Lake O&G Co.'s Kiger 1, sw se 9-18n-2e, rig. Dixie Pet. Co.'s Pat Henry 1, se ne 36-17n-4e, rig. Vicksburg O&G Co.'s Dornbusch 1, sw ne 8-18n-5e, sd 1600 ft.

WINSTON COUNTY (Louisville Dist.)—Miss. Drilling Co.'s Scarbrough 1, nw nw 15-13n-14e, sd repr engine, td in red shale 2619 ft.

YALABOUSHA COUNTY (Water Valley)—T. D. Collett et al's Blackmer 2, sw nw 14-11s-4w, 12½-in cas 103 ft, 8⅝-in cas 2426 ft, sd in sandy shale, arr re-cemt 2 joints cas td 2895 ft.

ALABAMA

MADISON COUNTY — Tennessee Valley O&G Co.'s Fee 4, 1-4s-2e, no recent report, show gas 300 ft, dr 700 ft last report.

SUMTER COUNTY (Livingston Dist.)—Forked Lightning O&G Co.'s Nixon 1, sw ne 30-20n-2w, dk.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, sd in limey shale 881 ft. Hobson Bros. 1, 9-8-2w, sd 1450 ft. Oscar Brown's U. S. Land & Cotton 2, 25-3-2w, sd 700 ft.

TENNESSEE

DECATUR COUNTY—Chester County O&G Co.'s Montgomery 1, dr sandy lime 2116 ft.

NEW MEXICO

CHAVES—Warman Oil Trust's Siebert 1, ne 27-13-24, dr 2425 ft. Neal et al's Russell 1, nw 21-14s-25e, dr 1855 ft.

DE BACA—Matador Oil Co.'s Wood 1, se 6-4n-20e, waiting for 6⅝-in cas, td 3010 ft.

HARDING—Kummbaca O&G Co.'s Kerlin 1, se 34-21s-30e, gas show at 300 ft, sd.

LUNA—Angelus Oil Mining Ass'n's 1, se 20-21s-10w, sd 6095 ft.

McKINLEY—J. W. Halsell's Santa Fe 1, 17-18-9w, sd 3255 ft. Williams et al's AT&SF 1, se 19-18n-8s, sd 1900 ft. United Kern Pet., Inc., sw 1-18n-11w, lcn. Dysart et al's Dysart 2, ne 14-14n-10w, dr 1456 ft.

MORA—Santa Fe Diox-Ice Co.'s Wagon Hound 1, 14-19-21, dr 210 ft.

OTERO—Ernest et al's 1, se 20-25s-7e, waiting for equipment at 1004 ft. Pasotero Oil Corp.'s Dexter 1, nw 22-24s-12e, lcn.

RIO ARRIBA—Berrenger et al's Hartman 1, ne 8-29n-7w, sd 825 ft. San Juan Pet. Co.'s Gov't 1, se 14-30n-7w, sd 250 ft. Governador Oil Co.'s 1, se 12-29n-7w, carrying 8¼-in at 875 ft.

SAN JUAN—Dorothy Oil Co.'s Terwilliger 2, 29-30-9w, sd 1750 ft. Kutz Canon O&G Co.'s Day 1, se 20-28n-10w, dr 2440 ft. Childers Dr. & Pr. Co.'s Westwater 2, 23-31-16w, prep to res, water trouble at 2490 ft. Rio Grande Dev. Co.'s 2, 9-29-11, td 1480 ft. Continental Oil Co.'s Rattlesnake 24, 1-29n-19w, prep to sdtr dr pipe, td 4730 ft. J. B. Witt O&G Co.'s Mangum 1, se 33-29n-11w, lcn. San Juan Leaseholds' Bowman 3, ne 30-30-15, dr 2685 ft. Reserve Oil Co.'s Reserve 3, se 36-22n-14w, ur to 748 ft. R. C. Oswell et al, nw 34-30n-11w, sp at 55 ft. Murchison Oil Co.'s Angels Peak 6, se 34-20n-11w, prep to res at 1730 ft.

SAN MIGUEL—Pioneer O&G Co.'s Thunderbird 1, nw 14-15n-16e, waiting 2340 ft. Starr Oil Co.'s Adams 1, ne 25-17-16e, dr 3480 ft. Cibola Pet. Co.'s Crown 1, se 9-13n-14e, sd 750 ft. Hershfield Dev. Co.'s Cabra Springs 1, ne 12-12n-22e, prep to res 1415 ft. Con-O-Kul Oil Co.'s Cherryvale 1, ne 34-17n-21e, 15½-in cas at 430 ft.

TORRANCE—Williams et al's Staplin 1, ne 16-8n-10e, prep to res 1643 ft. J. B. Witt O&G Co.'s Kutchem 1, 12-7-7e, dr 1450 ft.

VALENCIA—Acme Oil Co.'s N. M.-Ariz. Land Co.'s 1, ur to 4958 ft. Harlan et al's Harlan 1-A, 5-6n-2e, dr 6400 ft.

COLORADO

ADAMS—N. M. Slatt's 1, se 27-26-64w, carrying 6⅝-in cas at 2830 ft.

ARAPAHOE—McDebb Dr. Co.'s Fitzsimons 1, 7-45-55, dr 5795 ft.

BACA—A. R. Jones Oil & Optg. Co.'s Boice Cattle 1, 22-34-42w, dr 4806 ft.

EL PASO—Utemore Synd.'s Cannon 1, ne 10-16s-66w, prep to res 1125 ft.

GRAND—Oil Minerals Land, Inc.'s McElroy 1, sw 14-2n-81w, dr 400 ft.

HUERFANO—Parker Club's Fee 1, se 4-28s-68w, 5 3/16-in cas, td 4116 ft.

JEFFERSON—Ruby Hill O&G Co.'s Braden 1, se 24-4s-69w, dr 3882 ft.

LAS ANIMAS—Oklahoma Dr. Ass'n's Radcliffe 1, ne 28-28-52, sd 100 ft.

LA PLATA—McGarr Pet. Co.'s Pinon Mesa 1, ne 34-33n-12, lcn. Klem Pet. Corp.'s Olbert 1, se 9-25n-12w, sd 3125 ft. Murchison Oil Co.'s Doescher 1, nw 29-33n-12, sd 1225 ft.

LINCOLN—Eastern Colo. Oil Corp.'s Statel 36-14n-57w, ur to 3450 ft.

MOFFAT—Mtn. Fuel Supply's State 2, tract 37-12-100, fsh spear 2220 ft. S. H. Keoughan et al's State 1, sw 16-4n-101w, sd 2960 ft.

MONTEZUMA—G. H. Talcott et al's McElmo 1, 7-35n-16w, dr 455 ft.

MONTROSE — Uncompahgre O&G Co.'s Colo. Title & Trust 1, 27-50n-10w, dr 65 ft.

MORGAN—Ind. Terr. Illum. Oil Co.'s State 1, ne 16-1n-57w, caving, td 4090 ft.

PUEBLO—Anchor Oil Co.'s Easley 1, sw 35-22s-57w, waiting cas 520 ft.

PARK—So. Park Oil Co.'s Milligan 1, se 13-9s-76w, dr 1825 ft. So. Park O&G Co.'s Easche 1, ne 5-9s-76w, dr 1020 ft.

RIO BLANCO—California Co.'s Raden 1, se 30-2n-102w, prep to sp.

WASHINGTON—Middlemist Oil Co.'s Middlemist 1, se 14-4-56, sd 1510 ft.

WELD—Reiter-Foster and Platte Valley Pet. Corp.'s Johnson 1, nw 24-6n-61w, cellar.

WYOMING

BIG HORN—Westland Oil, Inc., 24-54-95, gas at 510 ft. Wisconsin Holdings, 5-55-97, sd 665 ft. Yellowstone Pet. Co.'s 1, 7-87-97, sd 4080 ft.

CARBON—Midwest Refining Co.'s U. P. 1, 27-11-81, sd 1810 ft. Pet. Expl. Co. of Calif., 29-23-89, fsh bit 2535 ft.

CONVERSE—Converse O&G Co., 27-33-72, sd 1410 ft. Pioneer Oil Co., 5-31-70, to dr new test.

FREMONT—Texas Prod. Co.'s State 1, 36-33-95, prep to kill gas to core, td 4485 ft. P&R 1, 33-34-92, sd 4906 ft. Yellowstone Oil Co.'s 1, 15-39-92, dr 600 ft. Ward Oil & Gas Co., 28-34-90, fsh. Wiebolt et al, 2-35-99, dr 1300 ft.

JOHNSON—R. C. Tarrant et al, 4-43-82, dr below 2150 ft.

LINCOLN—Mountain Oil Corp.'s 1, 36-26-116, td 1500 ft. Wyo. Prod. Co., 14-42-113, dr below 1225 ft.

NATRONA—Summit Oil Co., 21-33n-80w, sd 1220 ft, waiting equipment. Midwest's 11, nw 32-34n-77, sd 5340 ft. Cuyler Oil Co., 23-36n-95w, cemt 1250 ft. Golden West Oil Co., 36-36-81, co 1242 ft. Cuyler Oil Co., 23-36n-85w, cemt 1250 ft. Golden West Oil Co., 36-36-81, co 1242 ft. Midwest's Midway 1, ne 23-35n-79w, coring 6079 ft in caving formation.

NIOBRARA—West Virginia Synd., 7-35-62, td 987 ft, casing trouble.

PARK — Resolute Oil Co., 17-57-101, dr 8430 ft.

SWEETWATER—Vermillion Oil Co.'s 1, se 16-12-99, co 3465 ft.

UINTA—Park City O&G Co., nw 6-15-113, dr below 2400 ft.

WASHAKIE—Dakota-Wyoming Oil Co., ne 24-47-90w, small show 200 ft, to be cased off. Ohio Oil Co., lot 14, 19-45-92, 15¼-in cas cemt at 782 ft, dr water wells.

WESTON—Le Faivre Oil Synd., se 29-45n-68w, prep to cemt 15½-in cas at 1000 ft.

MONTANA

BIG HORN—Continental Oil Co.'s Lynde 2, se 21-6s-35e, sd 3405 ft.

CARBON—Spomont Pet. Co.'s Cruse 1, 32-6s-18e, dr 100 ft.

CASCADE—Andover Oil Co.'s Floweree 1, se 29-21-2w, sd 1405 ft. Lone Star Oil Co.'s McLean 2, se 13-21-3e, sp.

CHOTEAU—Northern State Oil Co.'s Woodward 1, sw 20-14n-24e, ream 6-in to shut off wate at 2845 ft. Melton Corp., 24-21n-17e, td 2850 ft. Pownal Oil Co., 24-19-11e, fsh at 150

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A resounding whack and the stands rose as one man. Possibly a two-bagger. The batter moves down the base lines with amazing speed and grace. First, second; now on to third. Will he make it? He hook slides into the bag perfectly . . . Safe! With none to spare!

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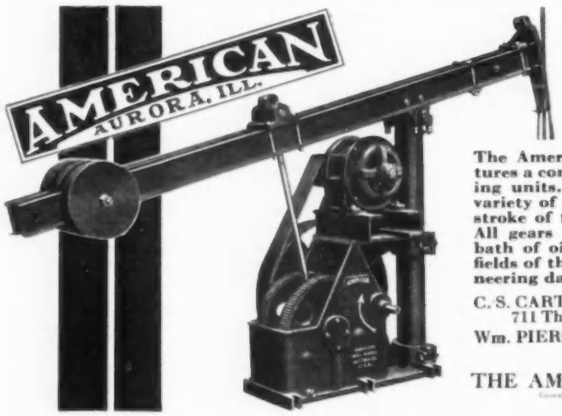

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ft. Williston Shelby O&G Co.'s Flack 1, ne 12-28-11, much fresh water at 2830 ft, may dd.

GLACIER—Fulton Pet. Corp.'s Blackfeet 1, ne 28-36n-12w, dr 1350 ft. B&H Oil Co.'s Haines 1, se 2-34-6w, dr on iron 2762 ft. Jeffries-Hoerr's Dawson 1, ne 7-31-12w, dr 2970 ft.

GOLDEN VALLEY—Texas-Pacific's 1, sw 21-8s-21e, water 4000 ft. J. F. Dealey et al's 1, ne 28-5n-22e, ro tes.

LIBERTY—Northland O&G Co.'s Yurman 1, 32-33n-5e, run cas to test at 3475 ft. Sunburst's McLaren 1, se 9-37-6e, sd 3115 ft. C. G. Howard's Schoonover 1, nw 18-36-6e, fighting cave at 100 ft. Perkins' Brown 1, ne 24-35-4e, rig up.

PETROLEUM—Minnesota-Flatwillow, 7-11n-31e, sd 2560 ft.

ROSEBUD—Prairie O&G Co., 1-X, 26-10-39e, dr out cement 2415 ft.

TETON—Andover Oil Co.'s Carlson 1, 5-24-4w, sd 150 ft. California Co.'s Sullivan 1, nw 34-27-7w, rig up.

TOOLE—Liquid Gold Oil Co.'s Robert 1, ne 25-36-12, prep to fish lost tools preparatory to test gas show at 2110 ft, td 2150 ft. International Roy. Hold. Co.'s Henry 1, sw 26-35-36, sd 2650 ft. A-1 Pet. Co., se 24-36-1e, sd 1555 ft.

YELLOWSTONE—Peter Antonioli, 21-2n-

OKLAHOMA

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros., Forbes 1, ne c se nw nw, sd 1420 ft.

KAY COUNTY—T 27n, R 2e, Sec. 9, Mummer et al, Sornick 1, nw c se HFW 2070-2170 ft, sd 2700 ft. T 26n, R 1w, Sec. 32, Boucher et al, Jefferson 1, ne c sw, sd 3502 ft.

HARPER COUNTY—T 25n, R 20w, Sec. 12, Empire, Bruce 1, sw c ne sw, td 7936 ft, shot—no results, will plug.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden, Collmer 1, ne c se ne sw, sd 5640 ft, tools lost.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, J. V. Bailey et al, Acre 1, c sw ne, show gas 5298-5303 ft, sd 5330 ft.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer, White 1, se c nw, sd 5850 ft.

NOBLE COUNTY—T 21n, R 1e, Sec. 12, Barnsdall et al, Miksch 1, nw s sw, HFW 4923-26 ft, will plug.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma, Phillips 1, c nw sw, sd 4600 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Healy et al, Quier 1, se c sw, sd 3970 ft.

KAY COUNTY—T 28n, R 3e, Sec. 24, Summitt Drlg. Co., Hays 1, nw ne nw, show oil 3185-3208 ft, sd 3250 ft.

PAWNEE COUNTY—T 23n, R 5e, Sec. 15, Cochran et al, McFadden 1, ne c sw, rig. T 22n, R 5e, Sec. 2, Sherry et al, Milsap 1, se c sw, sd 1750 ft. T 20n, R 5e, Sec. 6, W. A. Rookstool, Berry 1, nw ne sw, sd 1951 ft, show gas.

LINCOLN COUNTY—T 13n, R 6e, Sec. 8, Atlantic, Beebee 1, sw ne sw, lcn. T 13n, R 6e, Sec. 9, Mid-Continent, Lillie 1, ne c se, dr 340 ft.

OKFUSKEE COUNTY—T 12n, R 10e, Sec. 3, Shepperd et al, Shepperd 1, se nw sw, sd 3690 ft. E 11n, R 10e, Sec. 4, M. H. Watts, Chaplin 1, sw c, lcn.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al, McDuff 1, sw nw se, show gas 5654-64 ft, fsg tools 5687 ft. T 8n, R 14e, Sec. 14, C. O. Cannady, Smith 1, sw c ne nw nw, rig and tools. T 7n, R 14e, Sec. 5, C. O. Cannady et al, Travis 1, c sw ne, rig. T 6n, R 15e, Sec. 7, Perrine et al, Ringlind 1, nw c ne, sd 1505 ft.

LATIMER COUNTY—T 6n, R 18e, Sec. 4, Choctaw Gas Co., Weaver 1, c ne nw, D&A, td 3475 ft. T 6n, R 19e, Sec. 16, P. English et al, Weaver 1, c nw se, dr 125 0ft.

PITTSBURG COUNTY—T 5n, R 14e, Sec. 9, R. Vincent et al, Fee 1, nw c se, D&A 100 ft.

OKLAHOMA COUNTY—T 12n, R 4w, Sec. 17, C. F. Cuniff, Trustee, St. Joseph 1, sw c ne sw se, sd 6700 ft.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 19, Bunte et al, Bruner 1, se c nw, rig.

POTTAWATOMIE COUNTY—T 8n, R 3e, Sec 21, Droppleman et al, Jones 1, se c nw, dr

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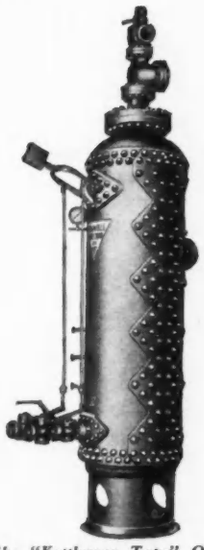

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Field-Tested and Field-Proved *facts*, gathered from the records of some of the leading gas trap engineers of the present day who have *tried* the Trumble Kettleman Type Oil and Gas Separator definitely show it to have:

- . . . 40% Greater Gas Capacity per given size.
- . . . A Safety Factor of 5 under the most exacting conditions.
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- . . . A construction principle that makes it as nearly foolproof as a gas trap can be made and still offer efficient separation.

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3430 ft. T 6n, R 4e, Sec. 6, Magnolia, Harris 1, nw c sw, dr 2950 ft.

SEMINOLE COUNTY—T 6n, R 7e, Sec. 15, Magnolia, Powell 1, nw sw se, dr 2925 ft.

ROGER MILLS COUNTY—T 12n, R 24w, Sec. 23, Ute Oil Co., Williams 1, c sw, dr 3825 ft. T 11n, R 26w, Sec. 4, J. J. Rook and Palmer, Davis 1, c nw ne, (owd) sd 2956 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey, Robinson 1, c ne nw, sd 150 ft.

WASHITA COUNTY—T 8n, R 19w, Sec. 29, Snodgrass et al, Blocker 1, nw c, dr 1760 ft. T 8n, R 18w, Sec. 21, Burns & Prince, Dock 1, sw c, sd 150 ft.

GREER COUNTY—T 7n, R 22w, Sec. 1, Good and Dowell, Cliffell 1, nw c, sand 1462-1501 ft, sd 1615 ft. T 7n, R 21w, Sec. 23, H. A. French et al, Murphy 1, sw nw se, UR 6-inch 1540 ft.

STEPHENS COUNTY—T 1n, R 8w, Sec. 25, Rose Southard, McKinley 1, ne c, sd 1063 ft.

HUGHES COUNTY—T 5n, 11e, Sec. 15, J. J. Wright, Roberts 1, se c sw, 2M gas 915-18 ft, sd 1645 ft.

GARVIN COUNTY—T 2n, R 2w, Sec. 24, Malernee, Phillips 1, ne c sw, rig.

COAL COUNTY—T 2n, R 8e, Sec. 10, Whitney et al, Miller 1, se c ne, (owd) sd 760 ft. T 1n, R 8e, Sec. 35, W. E. McCraw, Stiring 1, ne c se, sd 980 ft.

ATOKA COUNTY—T 3w, R 10e, Sec. 18, Brookshire et al, Guinn 1, nw c, show gas 360-72 ft, sd 500 ft.

BRYAN COUNTY—T 6s, R 7e, Sec. 14, W. A. Johnson, Usery 1, se c, sd 325 ft. T 7s, R 10e, Sec. 8, Bryan Oil Co., Childs 1, ne se sw, sd 660 ft.

ARKANSAS

CHICOT COUNTY—H. R. Smith's Lytle 1, 31-18-3, cemtd back to 2865 ft, ta old td 2925 ft.

CLAY COUNTY—S. C. Jeffus, Tr.'s, Underwood 1, nw ne 4-20-8e, sd cur titles 1214 ft.

CLEBURNE COUNTY—Donnell et al's Fee 1, 33-11-9, sd 3740 ft.

DALLAS COUNTY—Jno. James, Tr.'s, Fordyce Lbr. Co. 1, ne nw 11-9s-15w, 10-inch 176 ft, drill stem recov hole clean, r to test from 2492-2502 ft. E. C. Brewer, Tr.'s, Hillman 1, se ne 20-10-13, 10-inch 138 ft, dry 2628-48 ft, sd in rock 2846 ft.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-3n-19w, cas pulled hfsw ta, td 3756 ft.

GRANT COUNTY — Spann & McClung's Sarah Page 1, sw nw 3-3-12, dr 867 ft.

HOT SPRINGS COUNTY—Jno. Watkins, Tr.'s, Cunningham 1, 11-5-16, sd wo drill stem 220 ft.

JOHNSON COUNTY—Blackwell O&G Co.'s Wyver 1, 21-8-23, ta 5600 ft.

LA FAYETTE COUNTY—Crawford Drilling Co.'s Vaughan 1, 25-19-25, rig. McIver et al's Hattle 1, nw ne 1-20-26, 12½ cas 115 ft, sd 2520 ft. Smitherman & McDonald's Bodcaw 1, se nw nw 16-15-22, 12½ cas 42 ft, 8¼ cas 1176 ft, cored oil sand 1194-98 ft, sd wo 1198 ft. Cosby Prod. & Royalty Co.'s Biddle 1, 1-20-26, lcn.

LAWRENCE COUNTY — Marguerite Dev. Co.'s Broadway 1, 31-17-1, sd 45 ft.

LITTLE RIVER COUNTY—Fay Roberts Oil Co.'s Russell 1, nw nw 25-12-29, lcn.

LOGAN COUNTY—M. W. Greesom's Parks 1, 21-8-24, sd 1309 ft. J. H. Flowers' White 1, 13-5-26, sd 3610 ft.

MADISON COUNTY—J. W. Baxter's Hallem 2, cent sec 17-16-22, sd 405 ft; Hallem 3, ne sw 1-17-26, sd 42 ft.

MILLER COUNTY—E. & F. Oil Co.'s E. L. Beck 1, 36-15-26, 6⅝ cas 2792 ft, 4½ cas 2957 ft, sd 2968 ft. Bullock Oil Co.'s Hervey 1, 2-15-26, ta junk in hole, td 2832 ft. East Texas O&G Co.'s Hervey 1, 2-15-26, ta 890 ft. Gusher Bend Oil Co.'s Adams 1, nw nw 24-14-26, 10-inch 115 ft, ta 2680 ft. O'Mara et al's Person 1, 31-15-25, lcn. Fitzwater et al's Beck 1, sw se 33-15-26, 10-inch 85 ft, sd. J. D. McRae's Smith 1, nw se 28-15-26, dk.

OUACHITA COUNTY — Belmont et al's Dean 1, 16-15-17, top red beds 2765 ft, sd junk in hole 2907 ft. Copenhaver et al's Elliott 1, se se 11-15-17, 6-inch 2185 ft, dr plug, td 2190 ft. Wesson & Bonner's Wesson 1, sw nw 22-15-19, 6⅝ cas 2083 ft, wo power to pump, td 2169 ft, 300 ft fluid in hole.

PIKE COUNTY—Henderson et al's Tilyou 1, 26-8-24, show heavy oil 567 ft, coring 2812 ft. E. R. Henderson's Lee 1, sw se 31-8s-24w, dk.

POPE COUNTY—Ark. La. P. L. Co.'s McFadden & Brooks 2, ne nw 15-9-21, 13⅜ cas 1900 ft, tested 1 mil ft gas 3285 ft, 8⅝ cas 3415 ft, 8-inch cas 3451 ft 5 3/16 cas 4145 ft, dr soft sand 4202 ft; Baird 1, se nw 11-7n-20w, 10-inch 1168 ft, coring gray slate 3328 ft.

SCOTT COUNTY — Heavener O&G Co.'s Reser 1, 36-4-26, sd 1536 ft. Waldron O&G Co.'s J. G. White 1, sw nw 17-3n-29w, 10-inch 225 ft, dr 1850 ft (second hole).

SEBASTIAN COUNTY—M. W. Greesom's Spears 1, 9-7-29w, sd after testing sw 2515 ft. Ozark Nat. Gas Co.'s A. B. Bryant 1, se ne 28-8n-29w, dr shale 1150 ft.

SEVIER COUNTY—Tri-State O&G Co.'s Bank of DeQueen 1, s¼ sw 34-8s-32w, dk.

UNION COUNTY—Hickman et al's Hogg 1, 35-16-17, top Graves sand 2351 ft, top red beds 2779 ft, arr whipstock to test Nacatosh at 2090 ft, td in shale 3328 ft. Rice et al's Whatley 1, 7-17-15, sd 2186 ft. Southern Prod. Co.'s Wingfield 1, se nw 16-19-15, 10-inch 103 ft, sd 2608 ft. Lion O. R. Co. et al's Guy P. Hayes A-9, sw ne 4-16-15, rig (to be 5000 ft test). Wilson & Chapman's Ned Parker 1, nw se 3-18-13, sp dr 300 ft; Hadley 1, ne sw 3-18-13, 10-inch 102 ft, top Nacatosh 2300 ft, top Meekin sand 2550 ft, top red beds 2933 ft, sd 600 ft fluid in hole 30 per cent sw, td 3570 ft.

WASHINGTON COUNTY—Taylor et al's Runny 1, 1-13-29, sd 1702 ft. Lincoln Lease Holding Synd.'s Townsite 1, 30-15-32, ta 1500 ft. C. H. Willoughby's Jones 1, 34-16-30, sd 2150 ft. O'Hara & Shetterley's Boyd 1, 12-16-32, ta 850 ft. Delbert Graves' Cunningham 1, 14-15-32, sd in gray sand 602 ft.

VAN BUREN COUNTY—J. S. Martin's Scanland 1, 5-9-13, sd 50 ft.

YELL COUNTY—T. Luckett's Balcon 1, 36-7-12, sd while fsh, td 5710 ft.

NORTHERN CALIFORNIA

KERN COUNTY

BELRIDGE—Belridge Oil Co.'s No. 27-8, 27-27-20, sd 3730 ft; No. 27-64, 27-27-20, dr shale 3515 ft; No. 35-8, 35-27-20, dr brown shale 4282 ft; No. 35-33, 35-27-20, sd 3982 ft; No. 35-48, 35-27-20, sd 4760 ft; No. 35-49, 35-27-20, sd 1055 ft. Continental's Result 2, 36-27-20, dr shale 3785 ft. General Pet.'s Berry 1, 30-28-21, dr shale 4040 ft. Ohio's Bloemer 1, 36-27-20, sd 5986 ft. Reward Oil Co.'s Associated 4, 34-27-20, dr shale 4600 ft. Standard's McPhail 2, 36-27-20, fsh 5205 ft. Texas' Martin 1, 22-27-20, sd 5050 ft. Union's Belridge 17, 36-27-20, flowed at 250-bbl rate on preliminary production test, td 5541 ft, will co and deepen. K. C. Wallace's No. 1, 32-29-21, co 4210 ft.

BLACKWELL'S CORNER — F. B. Langstroth's No. 1, 14-26-19, rigging up rotary. E. J. Milet et al's No. 1, 17-26-19, rig.

BUENA VISTA HILLS—Federal Drilling Co.'s No. 6, 20-31-24, pumping water and trace of oil, td 5367 ft.

BUTTONWILLOW — Whilshire Oil Co.'s Nordon 1A, 7-29-24, cmt under pressure, td 6995 ft, will make test.

CARIZZO PLAINS — Panorama Oil Co.'s Panorama 1, 7-31-21, re-dr 2375 ft. Tray-El Oil Co.'s No. 1, 7-32-22, dr hard sand 1278 ft.

DEVIL'S DEN—Cumberland Oil Co.'s Cumberland 1, 21-26-18, co 1590 ft. Standard's Alferitz 1, 15-25-18, dr shale 2868 ft.

MOJAVE—Kendall Development Co.'s No. 1, 27-11-9, new lcn.

SEMITROPIC—Shell's Williams 1, 17-27-23, co 8900 ft, td 9702 ft, making production test; swabbed mud and water.

SHALE HILLS—Rio-Cal Pet. Co.'s No. 1, 2-27-18, co 2300 ft.

WEED PATCH—Alpine Oil Co.'s Giorgio 1, 13-31-29, dr shale 3698 ft. Mohawk Oil Co.'s Earl 1, 4-31-29, rigged to sp; Wharton 1, 32-30-29, plugged to 5840 ft, will set cas and test, td 6150 ft. Osborn and Coulter's Shell-Duff 1, 15-30-29, dr shale 1300 ft. Shell's Morris 1, 32-30-29, dr shale 5000 ft; Porter 1, 29-30-29, dr hard sand 6238 ft; Porter-Day 1, 29-30-29, sr 8250 ft.

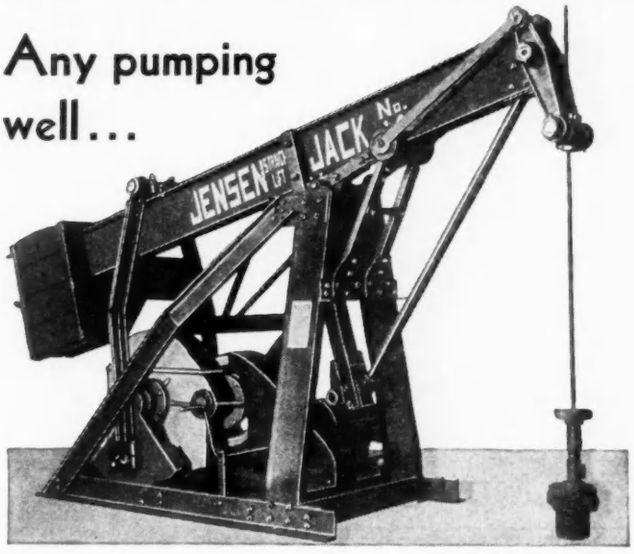
SANTA BARBARA COUNTY

COAL OIL POINT—Bolsa Chica Oil Corp.'s Augur Permit 191-1, 24-4-29, making production test, td 4191 ft.

GATO RIDGE—Barnsdall's Tognazzini 1, 9-8-32, dr 6128 ft.

GOLETA—General Pet.'s More 3, dr shale

Any pumping well...



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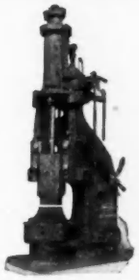

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As Receiver under the 44th District Court of Dallas County, Texas, I am in charge of a Lease known as the Julia Finney Lease, being a 102-acre Lease in the Joiner Field, Rusk County, Texas, proven territory, situate on the extreme Southwest corner of the Isaac G. Parker Survey, about a mile Northwest of the Joiner original Discovery Well. I want propositions from responsible parties willing to drill at least four wells on said tract (perhaps more) at an upset price per well, to be paid for out of three-fourths of seven-eighths of the oil produced from the given well. Party should be able to furnish bond for performance in the amount of the contract price. Interested parties please communicate with

Ernest R. Tennant, Receiver,
c/o Dallas Bank and Trust Co.,
Dallas, Texas.

4950 ft. George W. Johnson's Duncan 1A, 19-4-27, surveying hole, td 1900 ft.

ORELLA—General Pet.'s Erburo 10, dr out cmt, td 1501 ft.

PURISIMA — Vaqueros-Major Oil Co.'s Union-Annex 3, pumping mud and water, td 3155 ft.

SANTA MARIA—Western Gulf's Bradley 1, 5-9-33, dr shale 6155 ft.

VENTURA COUNTY

HOPPER CANYON—Bardeen Oil Co.'s No. 1B, 13-4-19, lcn.

OJAI—Dreadnaught Oil Co.'s Canet 1, coring shale 2878 ft.

OXNARD—Magu Syndicate's Utt 1, dr shale 2665 ft.

RINCON — Chanslor-Canfield Midway Oil Co.'s Hobson A2, 23-3-24, dr shale 9175 ft. Continental's Grubb 1, 23-3-24, dr shale and sand 2100 ft.

SANTA PAULA — San Pedro-Pt. Fermin Synd.'s Kellerman 2, 13-4-21, dr shale 3066 ft.

SESPE—Merchants Pet. Co.'s Cochran 1, 1-4-20, dr shale 1015 ft. Superior's Kirtlan 1, 15-4-21, dr shale 6300 ft.

MISCELLANEOUS

FRESNO COUNTY—Associated's Jacalitos-Mitchell 1, 22-21-15, dr shale 4505 ft, may plug back and make test.

KINGS COUNTY—T. H. Purman's Avenal 1, 36-23-17, dr shale 2915 ft; Van Valer 1, 36-23-17, lcn. Utah-California Pet. Development Co.'s No. 1, 13-24-18, lcn. Irma Investment Co.'s No. 1, 7-23-20, dr shale 600 ft. Kettleman Lakeview Oil & Gas Co.'s No. 1, 11-23-19, sd 1285 ft. Valley Exploration Co.'s Brennan 1, 20-23-20, dr out cmt 3715 ft.

MENDOCINO COUNTY—Twin State Oil Co.'s Soldani 1, 14-12-17, dr shale 6575 ft.

SAN LUIS OBISPO COUNTY—Cities Service Pet. Co.'s No. 1, 20-28-15, lcn. Paso Robles Syn.'s Emerick 1, 34-27-11, fsh 3970 ft. C. Shockley's No. 1, 13-32-13, dr shale 2700 ft. Continental's Hellman 1, 26-25-11, dr sand 5065 ft. J. D. Martin's Pricco 2A, 5-31-13, plugged to 2090 ft, sd.

SANTA CLARA COUNTY — Sargent Oil Co.'s No. 1, 1-12-13, rig.

SANTA CRUZ COUNTY—Wellton Oil & Gas Co.'s Galletly 1, dr out cmt for production test, td 2880 ft.

TULARE COUNTY—Big Four Drilling Co.'s No. 1, 29-23-27, co 3875 ft, td 4330 ft. Ducor Pet. Co.'s Zimmerman 1, 14-24-27, re-dr to bottom, td 2180 ft, fsh. George Knopp's No. 1, 20-22-27, dr shale 600 ft. W. D. McCoy's No. 1, 35-21-27, re-dr 700 ft. C. E. Pettingall's Campo Verde 1, 15-22-27, dr shale 805 ft. Turk and Campbell's Nevins 1, 34-22-27, dr out cmt 1392 ft.

SOUTHERN CALIFORNIA

CORONA—Western Gulf's Abacherli 1, 12-3-8, dr shale 3020 ft.

CULVER CITY—Olympic Oil and Realty Co.'s No. 1, 14-2-15, re-dr 4370 ft.

DOMINGUEZ—Tenacity Oil Co.'s Del Amo 1, 11-4-13, trying to shut off water, td 8500 ft, may plug back.

FULLERTON — Standard's Bastanchury 1, 21-3-10, swabbing water, gas and oil, td 8145 ft.

HAWTHORNE—Jim Thorpe Pet. Co.'s No. 1, 10-3-14, co 3670 ft.

HERMOSA BEACH—E. S. Cone's Kellogg-Burdick 1, 6-4-14, rigging up rotary. Corniel Oil Corp.'s No. 1, 31-3-14, dr out cmt, td 3190 ft. Hermosa Exploration Co.'s No. 1, dr shale 2678 ft. Tulsa Oil Co.'s Hermosa 2, 6-4-14, dr shale 2350 ft. Westwood Pet. Co.'s No. 1, 6-4-14, will run cas, td 2725 ft.

NEWHALL — Consolidated Oil Co.'s Hammond 1, 8-3-16, dr shale 2728 ft. York and Smullin's Clampitt 5, 13-3-16, plugged to 1100 ft, td 2045 ft.

NEWPORT—Nuoil Co.'s No. 1, 29-6-10, sd 1370 ft. Standard's Irvine 1, 26-6-10, dr gray sand 4235 ft.

OCEAN PARK—Hines Pet. Corp.'s Happy Days 1, 8-2-15, changing to heavier equipment, td 4910 ft, sdtr fish.

OLIVE—Texas' Community 1, 7-4-9, dr shale 4260 ft.

PLAYA DEL REY — Mesmer City Realty Co.'s No. 1, 24-2-15, dr shell 4355 ft. West Port Oil Co.'s No. 1, 27-2-15, re-dr 5535 ft.

PUENTE—Rio Hondo Pet. Co.'s Rowland 1, 14-2-10, rigging to deepen, td 3725 ft. Rucker and Croul's Grazide 2, 22-2-10, dr gray sand 2065 ft.

ROSEMEAD—Rancho Oil Corp.'s Harmon 1, 30-1-11, will abn, td 5650 ft.

REPETTO HILLS—Texas' F. M. 1, 4-2-12, dr shale 2900 ft.

SAN FERNANDO—San Val Oil Co.'s No. 1, 14-1-16, will make water well, td 2046 ft.

SUNSET BEACH—Gieck Oil Corp.'s No. 1, 20-5-11, rigging up rotary.

TORRANCE—C. M. Shelley's No. 1, 12-4-14, rig.

WILMINGTON—York and Smullin's Watson 1, 29-4-13, Wilmington Consolidated Oil Co.'s No. 1, rigging up rotary.

OLINDA—Graham-Luftus Oil Co.'s No. 1, 18-3-9, rigging to deepen from 6733 ft.

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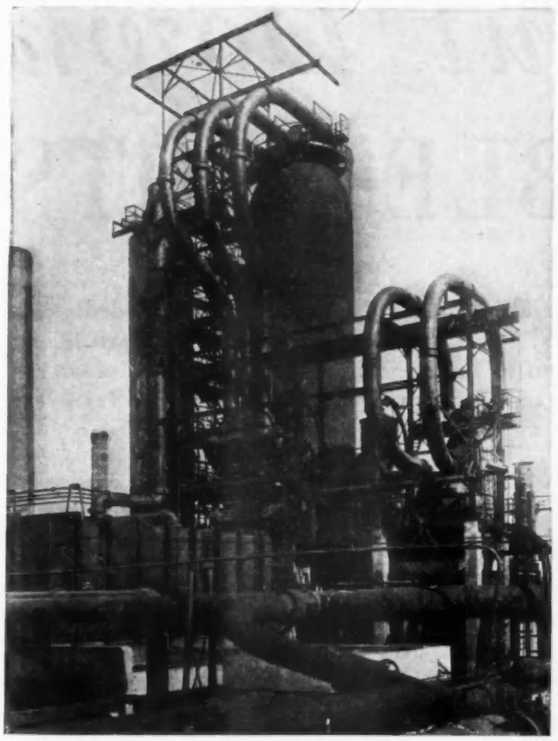

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Details of design, construction and operation of this jack will be furnished interested operators by C. G. Cox upon request to the above address.

Cardwell DA-30 Airhoist

ALLSTEEL PRODUCTS MANUFACTURING COMPANY

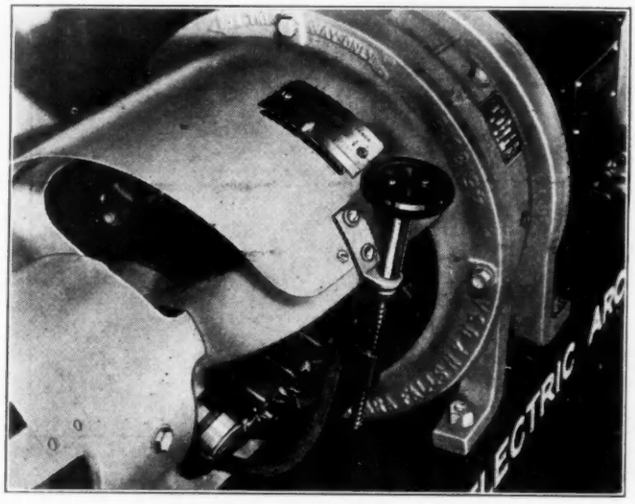
Allsteel Products Manufacturing Company, Wichita, Kansas, has recently started marketing the new Cardwell Allsteel DA-30 airhoist combination unit for pipe line work.

This unit consists of the same frame and live-boom used in the Cardwell Allsteel Model PR-30 pipe line winch; Davey air compressor and tank and the Little Giant two and one-half ton air hoist. Elevation and angle of the live-boom is hand controlled from the operator's seat. The unit is designed for mounting on "Caterpillar" tractor, Model 30 wide-gauge.

The air hoist is readily available to handle, load or unload pipe. Air pressure for operating brushes for cleaning pipe, spray painting coat and for blow-torches used in making hot bends in larger sizes of pipe is supplied by the compressor. The design of the unit is such that the drawbar may be used unhampered, making the tractor available for hauling distillate tank, or "dope wagon," and a sled or trailer may be user to carry loose equipment for the job.

The manufacturers will furnish interested pipe line contractors or companies complete detailed information on this new unit upon request.

Cardwell D A-30 Air Hoist



U. S. L. Cement Adjuster

"Full Range" Arc Welder

U. S. L. BATTERY CORPORATION

U. S. L. Battery Corporation, Niagara Falls, New York, announces placing on the market the new USL "full range" electric arc welder with no voltage adjustments, no switches or rheostats for current adjustments.

All current adjustments are made by an electrode indicator which is set by the operator for the size electrode being used. The machine is then ready for the welding job.

The manufacturers describe the "full range" welder as permitting an infinite number of accurate current adjustments. The design is to further eliminate confusing adjustment of knife switches and field rheostats.

It offers a high striking voltage of 60 volts, constant for all commercial sizes of electrodes, either bare or coated. The USL welding generator is especially designed to pro-

duce an arc which prevents burning on light work and to offer deep penetration on heavy work.

U. S. L. Battery Corporation will gladly furnish complete details on this welder upon request to the headquarters office.

Automatic Release Pipe Tong

ALLSTEEL PRODUCTS MANUFACTURING COMPANY

Allsteel Products Manufacturing Company, Wichita, Kansas, announces the new Cardwell Allsteel automatic-release pipe tongs.

Automatic Release Pipe Tong

A unique feature in the design is the automatic release of the load when tension on the lifting line is relieved, thereby speeding the lowering-in operation. This feature is to eliminate the use of "slings" or "bellies" which must be removed from the pipe after it has been lowered in, and also to eliminate the hazard of tearing pipe covering or marring coating.

The overall dimensions of the tongs are the same in either open or closed position, permitting the tongs to be dropped into the ditch without "bell-holing" the walls or digging under the pipe when necessary to remove the pipe after it has been lowered in.

The "palms" of the tongs are constructed for a positive bite. When relining is necessary the job may be done in the field with ordinary hand tools.

The manufacturers will supply a detailed description of this new type pipe tongs upon request to the above address.

Precise Instrument Company, repair specialization engineers', geologists' and oil field instruments, announces removal of the shop and office from 1406 Leland Avenue, Houston, to 1204 Jackson Street, Houston.

Improved Electrode

LINCOLN ELECTRIC COMPANY

Lincoln Electric Company, Cleveland, announces a new, improved electrode for the arc welding of stainless steel, a product recently developed by Lincoln Research Laboratories.

This electrode, known as "Stainweld A," is an extruded electrode used with usual polarity of welding current reversed. The coating of the electrode contains no carbon, often used as an arc stabilizer. The manufacturers have eliminated the use of carbon to eliminate the possibility of the molten weld metal absorbing carbon from the electrode coating during the welding process.

Lincoln Electric Company states that as a result of this feature the carbon content of weld metal deposited by the new, improved electrode will always be equal to or less than the carbon content of the stainless steel being welded. This has an important bearing upon the resistant qualities of the weld since a slight increase in carbon in the weld offers to permit more rapid corrosion. Welds deposited by this electrode are produced in a "shielded arc" to prevent the combination of atmospheric oxygen and nitrogen with the molten weld metal to form oxides and nitrides in the weld.

Physical and chemical tests have been made to prove the high tensile strength, ductility and resistance to corrosion claimed for welds produced with this improved electrode. The manufacturers placed particular stress on seeing that ductility of the weld metal is not sacrificed in building up a high tensil strength.

"Stainweld A" electrodes are manufactured in 3/32, 5/32, and 3/16-inch sizes of the regular 11-inch lengths.

Gauge Protector and Non-Pulsator

CHAMPION & BARBER, INC.

Champion & Barber, Inc., 576 Subway Terminal building, Los Angeles, announce the manufacture of two new gauge protection products: the Champion gauge protector and the Champion non-pulsator.

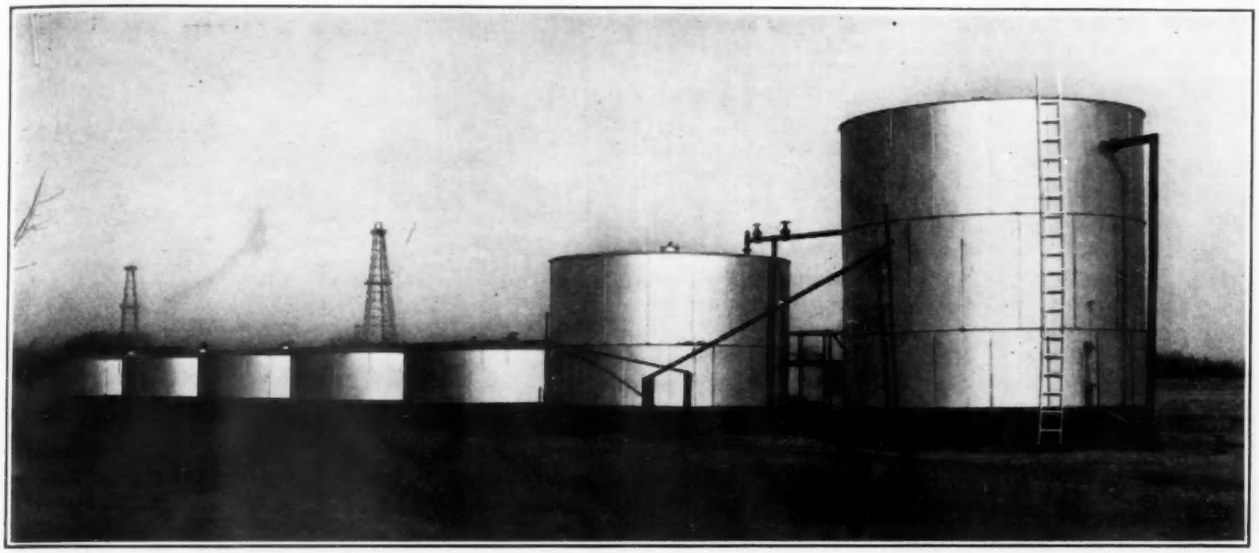
These two products, accurately described in a new folder "Gauge Protection via the Champion Method," have been developed for one specific purpose, protection of all makes of gauges under any operating condition.

In particular, the Champion gauge protector is a simple, three part, bronze bodied, rubber bulbed pressure transmitting instrument, used to transmit line pressures to gauge recordings by means of a secondary, or bulb pressure; the recordings being the result or the compression of the secondary bulb liquid by a given line liquid. It has an anti-corrosive body, an acid resistant pressure bulb; is designed to restrict the passage of line solids into the gauge or tube movement, and to make an all-purpose gauge out of any ordinary gauge.

The Champion non-pulsator operates by fluid passage restriction, and the control of the restriction by means of a needle valve. Or, in other words, the pulsation recordings on the gauge are controlled entirely by the adjustment of the needle valve, regardless of the pulsations of the line pressures.

More complete data may be secured by writing Champion and Barber, Inc. and asking for "Gauge Protection via the Champion Method."

Now—above all times—oil producers are faced with the necessity for eliminating all unnecessary waste.



One 1500 Bbl., one 1000-Bbl. and five 500-Bbl. Maloneys on Corr Lease, Valley Center, Kansas. Erected by Maloney Sales Corp., distributer.

Efficient methods are an absolute necessity in times of depression

When the oil business is booming, producers can make money in spite of profit leaks. But in times of depression wasteful methods may lead too close to bankruptcy.

MALONEY *Vapor-Pressure* TANKS

enable producers to eliminate an important source of waste — the loss of oil caused by breathing. They are the highest development in efficient and economical lease storage . . . . These tanks are made of rust-resisting Keystone Copper Steel, not less than 12-gauge. They are strongly tied and reinforced with heavy 2 inch angles and painted with aluminum. Efficient valves operating at 16-oz. pressure and 2-oz. vacuum restrict the movement of vapors and protect the tanks.

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Distributers at All Principal Petroleum Points

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Manufacturer and Supply Dealer Notes

▼ ▼ ▼

Lincoln Electric Company, Cleveland, Ohio, announces the advancement of George G. Landis to chief engineer. He is a graduate in electrical engineering of Ohio State University. His record since graduation includes a connection with General Electric Company where he was engaged in the design of small motors, and later with Westinghouse Electric & Manufacturing Company as sales engineer for central station equipment. He has been with Lincoln Electric Company for eight years, being first placed in charge of experimental activities, and later in charge of electrical design of both motors and welders.

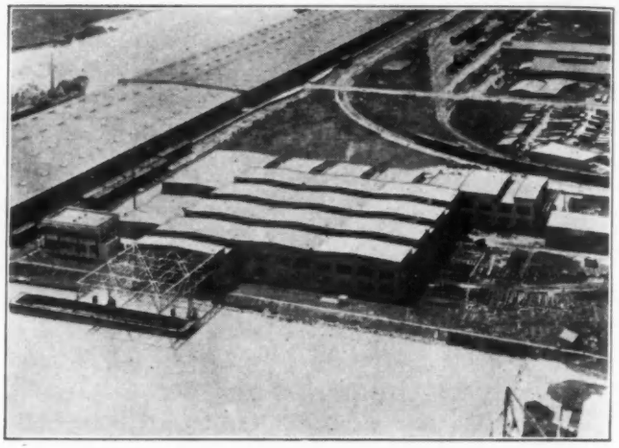
GEORGE E. LANDIS

Byron Jackson Company, Los Angeles, announces the transfer of C. F. Vincent from Oklahoma City to the East Texas fields as sales engineer. Byron M. Landis, is now sales representative for the company at Oklahoma City. G. W. Moore, who is touring the Rocky Mountain territory for Byron Jackson Company during the summer, maintaining headquarters with National Supply Company at Calgary, Canada.

"Analytical Principles of the Production of Oil, Gas, and Water From Wells" is a treatise that can best be described in words of Mr. Herold as "the theoretical mechanics of production from reservoirs." The author, beginning with the more generally-known physical laws pertaining to liquids and gases, develops by geometrical methods the fundamental principles of production. These principles are statements of the natural laws which have had their validity established either by laboratory experiments or by comparison with actual field data.

Wells and their reservoirs have been grouped into three classifications by their author: those in hydraulic control, those in volumetric control, and those in capillary control. A thorough understanding of the nature of the three classes, which is so essential to a proper development of oil and gas properties, has been made possible by the author in his complete explanation of the separate laws of production applying to each of the separate classifications. This first attempt to state the fundamental laws governing fluid delivery from reservoirs should aid materially in the eventual solution of the existing problems of mutual interference of wells, spacing of wells, oil and gas recovery, and drainage of a pool by a well or group of wells.

This book, which is printed by the Stanford University Press, Stanford University, California, is for sale by The Gulf Publishing Company and retails for $7.50.



Jones & Laughlin steel warehouse and rail-water terminal at New Orleans. Steel products from the J & L mills in Pittsburgh will be shipped to this distributing depot in 1000-ton steel barges via the Ohio and Mississippi rivers, a distance by water of 2000 miles. In addition to serving New Orleans, shipments will be made from the warehouse to customers along the Gulf Coast, the Pacific Coast and in foreign countries, by rail, by river and ocean going vessels. The plant, which is situated on 17 acres fronting on the Industrial Canal, and contains a steel fabricating plant, was purchased recently from the Lukens Steel Company.

Gatke Corporation, 228 North La Salle Street, Chicago, manufacturers of brake lining, has recently mailed to the oil trade a small leaflet illustrating and briefly describing Gatke-Universal moulded brake lining suitable for application on rotary draw-works. A list of prices per foot on this brake lining is carried on the back of the leaflet. Gatke Corporation's home office will gladly furnish a copy of this leaflet to operators upon request.

Driftmeter, Inc., 616 Exchange Bank building, Tulsa, has published an eight-page booklet describing and showing Driftmeter Junior, for determining the verticality of crookholes. This instrument takes the angle of deflection from perpendicular, recording the angle in degrees, eliminating the use of a protractor and level. The record is made on a paper disc providing a permanent record easily filed, and space is provided on the back of the drift-disc for recording depth, well number and other information to eliminate the use of stickers. The mechanism of this instrument is fully described and the operation is given briefly. Complete details on the instrument and its operation can be had by writing the company, at the address given above, for a copy of the booklet.

J. E. SLOAN

New district manager in Tulsa for the E. H. Edwards Company of San Francisco, manufacturers of Edwards wire rope

Reconditioning tools, fittings, valves and parts often entails a laborious, costly cleaning operation. But not when Oakite cleaning materials and methods are used.

Cleans salvage equipment at low cost

No matter how dirty the pieces to be reclaimed may be . . . how heavily encrusted with oil and dirt . . . a boil in an Oakite solution cleans them thoroughly down to the metal. Hundreds of parts are cleaned at one time in the Oakite tank, for hand scraping and scrubbing are practically eliminated.

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SURWEL

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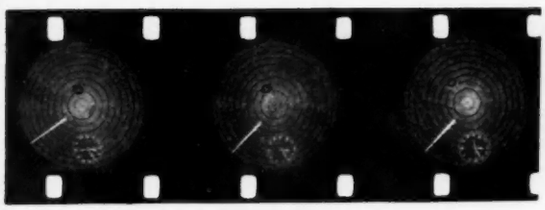


SURWEL

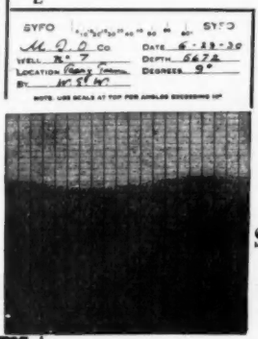
Photographs Don't Lie!

It pays to discover the truth about a non-producing well. With the aid of the gyroscope we have been able to make an instrument which will not only accurately tell the degree of deviation but the exact *direction* of it.

The SURWEL Gyroscopic Clinograph has been subjected to exhaustive field tests over a three year period. The service is now available to operators to make complete and accurate surveys of wells in the shortest space of time.

SYFO Clinograph for Surveying Drilling Progress

The presence of crookedness in drilling is not indicated by any clear cut evidence. Well owners today insist that the hole be surveyed as it is drilled. For such the SYFO affords a direct and accurate record — on paper — and without the use of dangerous acids. It is easily and quickly operated. We will be glad to send descriptive literature.



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SYFO

SYFO

• • • Clinograph

Squeaks From the Bull Wheel

▼ ▼ ▼

A Chicago actress came into a lawyer's office and said to him: "I want a divorce."

"Certainly," said the lawyer. "For a nominal fee I will institute proceedings, and should experience little difficulty in procuring it for you."

"What do you call a 'nominal fee'?" asked the actress.

"Five hundred dollars," said the lawyer.

"Nothing doing," retorted the lady. "I can have him shot for ten dollars."

"Oh, Mr. Jones," cried the landlady, in a flutter. "I've seen a large rat in the pantry—what shall I do?"

The boarder looked up from his paper. "Shut the door," he returned, "and let it starve to death."

An old farmer was complaining bitterly to the minister of the terribly bad weather for the crops, when the latter reminded him that he had much to be thankful for, all the same.

"And remember," said the good man, "Providence cares for all. Even the birds of the air are fed each day."

"Aye," replied the farmer, darkly, "off my corn."

"And what if the engine stalls when we're away up in the clouds?" asked the young lady of the pilot as she was about to enter a flying-machine for her first trip.

"Well, if that should happen," replied the pilot, "you just leap out, count ten and then pull the cord on your parachute."

"But what if it doesn't open up?" she asked anxiously.

"In that case the only logical thing to do is to flap your arms up and down and say 'I'm a bird—I'm a bird,'"

Mistress—I must get a griller for the kitchen when I'm downtown. You know what a griller is?

Green girl (with recollections of the zoo)—Indeed I do. It's a long hairy monkey the size of a man, and if you want one of those in your kitchen I'm leaving at once.

Marjorie (at dance)—I can't understand why you stayed out so long with such a splendid dancer as Jack.

Betty—He showed me some new steps—and we sat on them.

The APPLEMAN

eats that stuff up in one Hell of a hurry!

Derrick Man: "Boy, it's sure cold up on that d—— board. Hope we don't have to come out of the hole tonight."

Driller: "Well, the day crew just got back in the hole with a new APPLEMAN."

Derrick Man: "That's fine! What kinda diggin' we got?"

Driller: "Chalk. They went into it about one o'clock."

Derrick Man: "That's pretty tough diggin' for an ord'nary bit, ain't it?"

Driller: "Yeah, but that APPLEMAN ain't no ord'nary bit . . . it eats that stuff up in one Hell of a hurry!"

B.K. APPLEMAN
BEAUMONT, TEXAS

The governor of Arkansas was visiting the state penitentiary. A colored woman inmate, who was cooking in the prison kitchen, desired an interview with him, which he granted. She asked for a pardon.

"What's the matter, Auntie, haven't you a nice home here?" asked the governor.

"Yassuh," she replied, "but Ah wants out."

"Don't they feed you well here?"

"Yassuh, Ah gits good victuals; dat ain't hit."

"Well, what makes you dissatisfied, then?"

"Ah is only got jis' one 'jection to dis here place, Guvnor. An' dat's de repitation hit's got out ovah de state."

Customer — Haven't you anything you could guarantee to waken me early in the morning?

Assistant—Yes, but I don't think his mother would like parting with him.

An American film producer asked an English friend to watch the "shooting" of one of his "society" films to see that it was all right.

After a time the Englishman asked: "Why does that man keep his hat on when he's talking to a lady in the drawing-room?"

"Sure," said the producer, "he can't take it off—another lady's coming in presently and he's got to raise his hat to her."

"What time was it when you were robbed?" the defense attorney asked the complaining witness.

"Ask your client," replied the witness. "He took my watch."

Angus—Sandy, ye ken I'm a thrifty man. What would ye advise me to take to the golden wedding?

Sandy (after a little thought)—Mon, I'd take a goldfish.

"Do you act toward your wife as you did before you married her?"

"Exactly. I remember how I used to act when I first fell in love with her; I used to lean over the fence in front of her house and gaze at her shadow on the curtain, afraid to go in. And I act just the same way now when I get home late."

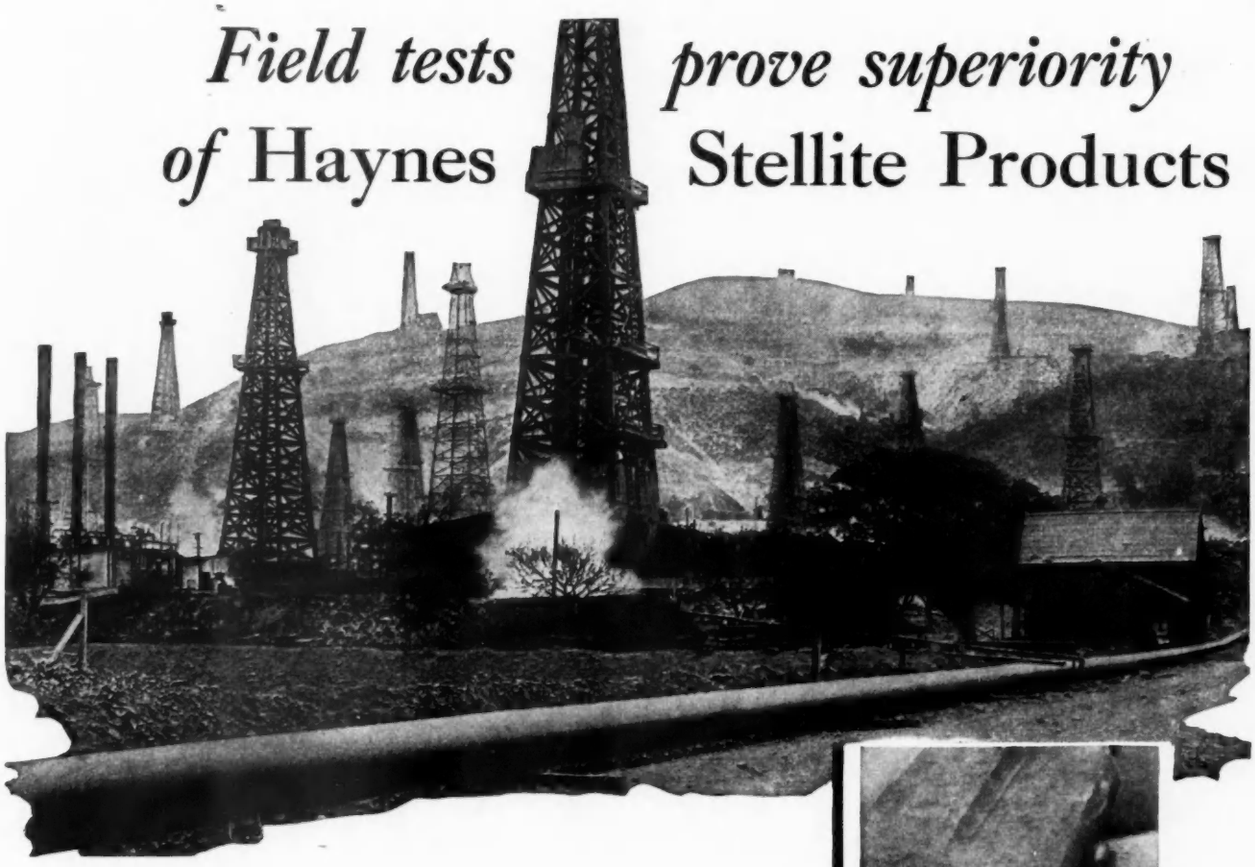
At an examination of a class in first aid, a member was asked: "What would you do if you found a man in a fainting condition?"

"I'd give him some brandy," was the answer.

"And if there were no brandy?"

"I'd promise him some."

Field tests prove superiority of Haynes Stellite Products



TEXAS oil-field records for the diamond substitute Haystellite, and for the wear-resisting alloy Haynes Stellite, are but typical.

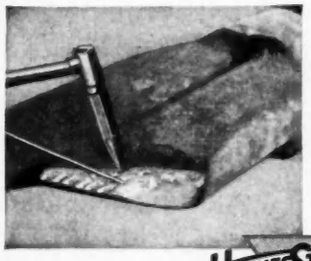
At Spindle Top, bits hard set with Haystellite averaged 55% more footage per hour than the best hard set bits previously used . . . and established an average drilling record of 111 feet more per bit. In a 5,000 foot test well, hard set Haystellite bits gave an average of 50% more footage. From South Corsicana come reports of a company adopting Haystellite as the standard material for hard-setting core drills and fishtail bits, after conducting the most extensive tests.

Haystellite, while almost diamond hard, is tough enough to withstand the impact of drilling without chipping or crumbling. Drilling tools hard set with Haystellite and hard surfaced with Haynes Stellite give the greatest round-trip footage with the maximum drilling speed.

Return the coupon for the newest book by the pioneers in the development of hard surfacing materials.

HAYSTELLITE

Small pieces of Haystellite, the cast Tungsten Carbide diamond substitute, welded in place.



HAYNES STELLITE

Surfacing a Haystellite hard-set bit with Haynes Stellite — the wear-resisting alloy of Chromium, Cobalt and Tungsten.

HAYNES STELLITE COMPANY

Unit of Union Carbide and Carbon Corporation

UCC

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General Office and Works — Kokomo, Indiana

Haynes Stellite alloys are available also at all of the 42 apparatus shipping points of The Linde Air Products Company

Haynes Stellite Company, Kokomo, Indiana

Without obligation on my part, please send me a copy of your new book, "Haynes Stellite Products in the Oil Fields."

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Twisting "SECRETS" Out of Steel Wire

BETWEEN the jaws of this testing machine, the wire for B & B Cable Tool Drilling Line is twisted until it snaps. Plain as day, its quality is revealed by the *number* of recorded twists, the *manner* of twisting, the *appearance* of the fracture.

In this torsion test, as in all others, our standard of tolerance is most exacting. That's why oil men say: "B & B Lines are *remarkably* uniform." Try them and see.

Get Catalog 40

Broderick & Bascom Rope Co.

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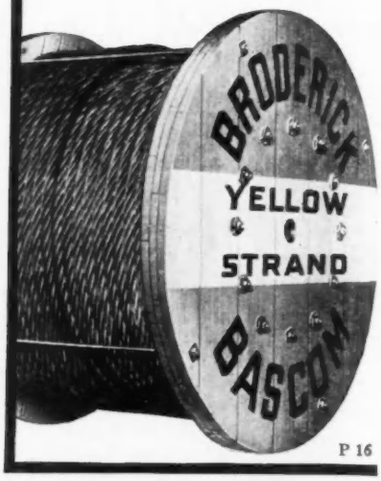
Factories: St. Louis and Seattle

Distributors of B & B Cable Tool Drilling Lines and Yellow Strand Rotary Lines in all fields.



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BRODERICK & BASCOM DRILLING LINES

PATENTSTEEL, EXTRA STRONG CAST STEEL AND CAST STEEL; ALSO POWERFUL YELLOW STRAND ROTARY LINES.

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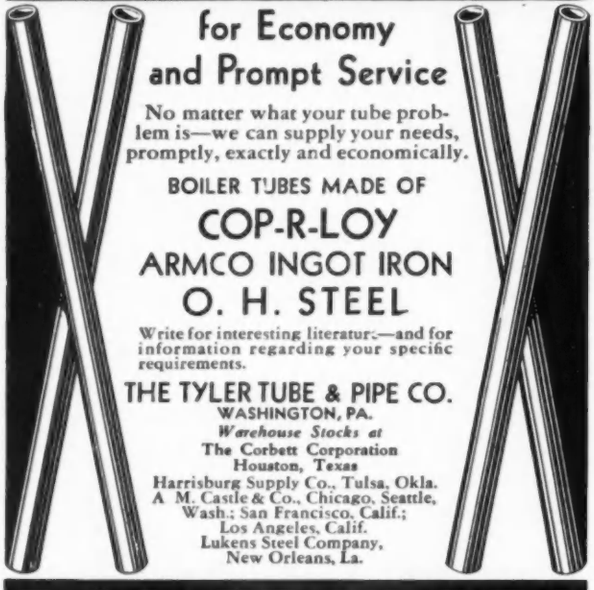

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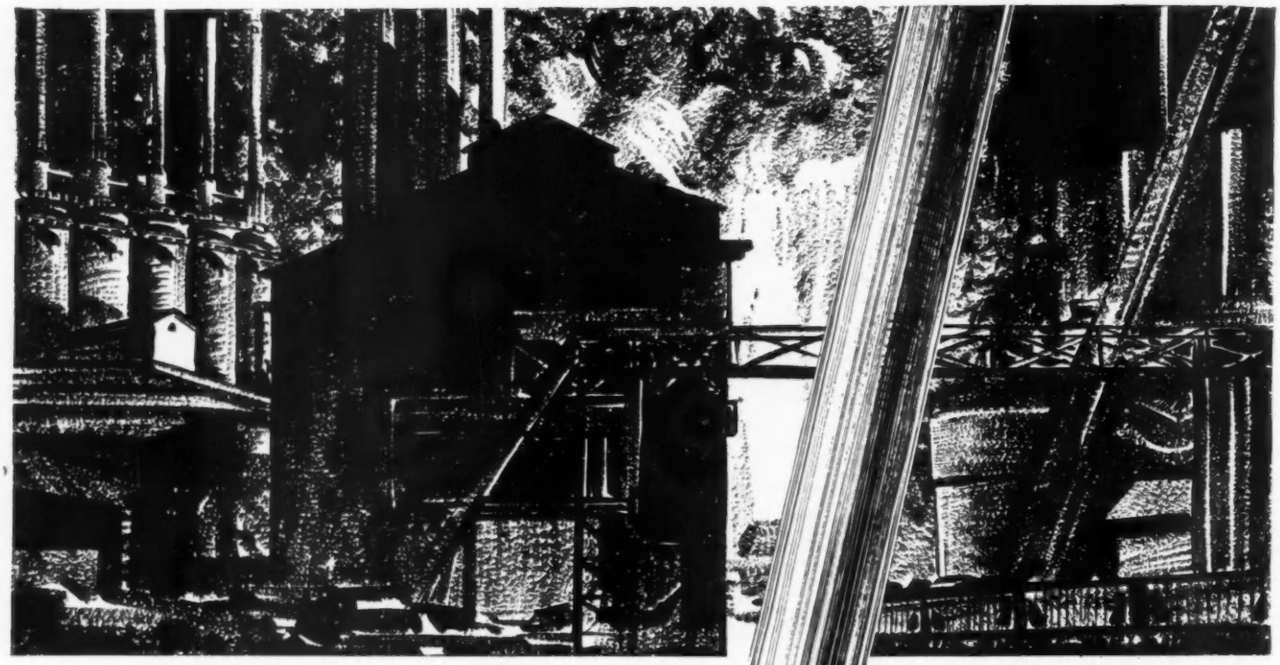
Every precaution has been taken to insure accuracy in listings in this Index to Advertisers, but last minute changes may result in omissions or erroneous listings for which we ask your indulgence. This index is for the convenience of readers and we do not assume liability for improper listings.

STRAIGHT FACTS

THE EIGHTH ADVERTISEMENT OF THE SERIES AND THE FIRST DEVOTED TO AXELSON STEEL PLUNGERS



● Uniformity of grain structure begins at the Steel Mill...

For four decades Axelson has been building up its knowledge of plunger steel requirements. From these years of experience, stock specifications have been developed which represent the ultimate in chemical and physical analyses in maximum uniformity. » »

But this uniformity must originate at the steel mill itself. Not only in the pouring, reheating of the ingots and the rolling of the stock, but also in the rough machining of the plunger tubing is steel mill practice vital in the manufacture of Axelson plungers. Besides the regular procedure of making the plunger tubing, the mill rough turns the stock to a specified outside diameter to insure that there are no surface defects, seams or flaws that might cause the material to be rejected.

The chemical and physical analyses are scientifically specified and controlled to produce a uniform steel with a minimum ultimate tensile strength of 85,000 lbs. per square inch and a yield of 50,000 lbs. per square inch, meaning maximum wearing qualities in service.

From this tubing steel as good as human effort and research can produce, Axelson manufactures its liner and insert pump plungers. Compare an Axelson Barnwell Plunger performance with that of any other plunger in your next sandy well. » » »

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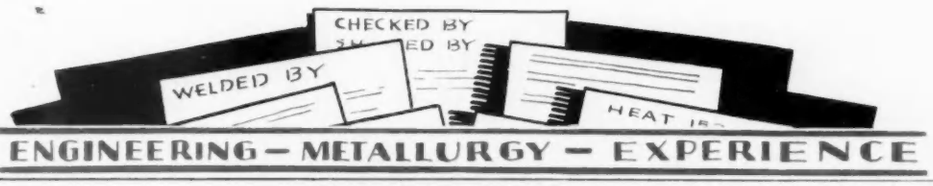
AXELSON STEEL PLUNGERS



ENGINEERING – METALLURGY – EXPERIENCE

FURNACE RECORD

DATE 4/16/30 FURNACE NO. HEAT NO. 2323

QUENCHED BY F.V.S.

SHOP ORDER BY

	ARTICLES	NEW	USED	SIZE	SHOP NO.
1	25 M. Hds	✓		$10\frac{5}{8}$"	606
2					
3					
4					
5					
6					

TEMP. OF FURNACE		DEGREES	TIME
	IN	750	9 9. M
	AT TEMP.	1500	12^{30} P.M.
	OUT	1500	1^{30} PM

TEMP. OF QUENCH ... 10 – 170%

WATER

		DEGRE	TIME
TEMP. OF FURNACE	TEMP.		M
	OUT		M.
			M.

DRAW TEMPERATURE FURNACE / SALT

HARDNESS TEST B. C.

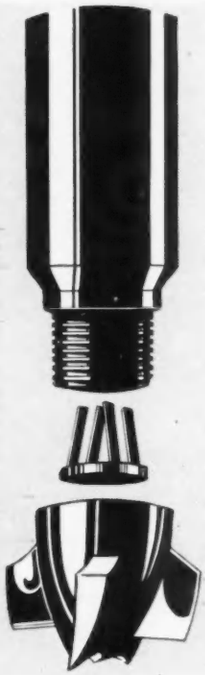
HARDNESS TEST BY

REMARKS:

WATER

Elliott SAFEGUARDS

►►for Users of Elliott Core Drills



ELLIOTT CORE DRILLS

ELLIOTT CORE DRILLS represent the finest in design, materials and construction that engineering and metallurgical skill, backed by years of specialized experience, can produce.

In order to assure our users all the superb performance and service that this in-built quality provides for them, we have maintained a complete record of every Elliott Core Drill from the time it is produced until it is finally discarded.

The record not only covers every complete core drill manufactured, but each individual part therein. It embodies complete data on design, materials, castings, heat-treating, hard-facing, runs made, rebuilding, shipments; in fact, every detail that enters into the manufacture and operation of the completed tool.

This is only one of many reasons why Elliott Core Drills are outstanding in performance and results obtained. Nothing can substitute for correct design, quality materials, precise workmanship, and efficient maintenance where superior performance is required.

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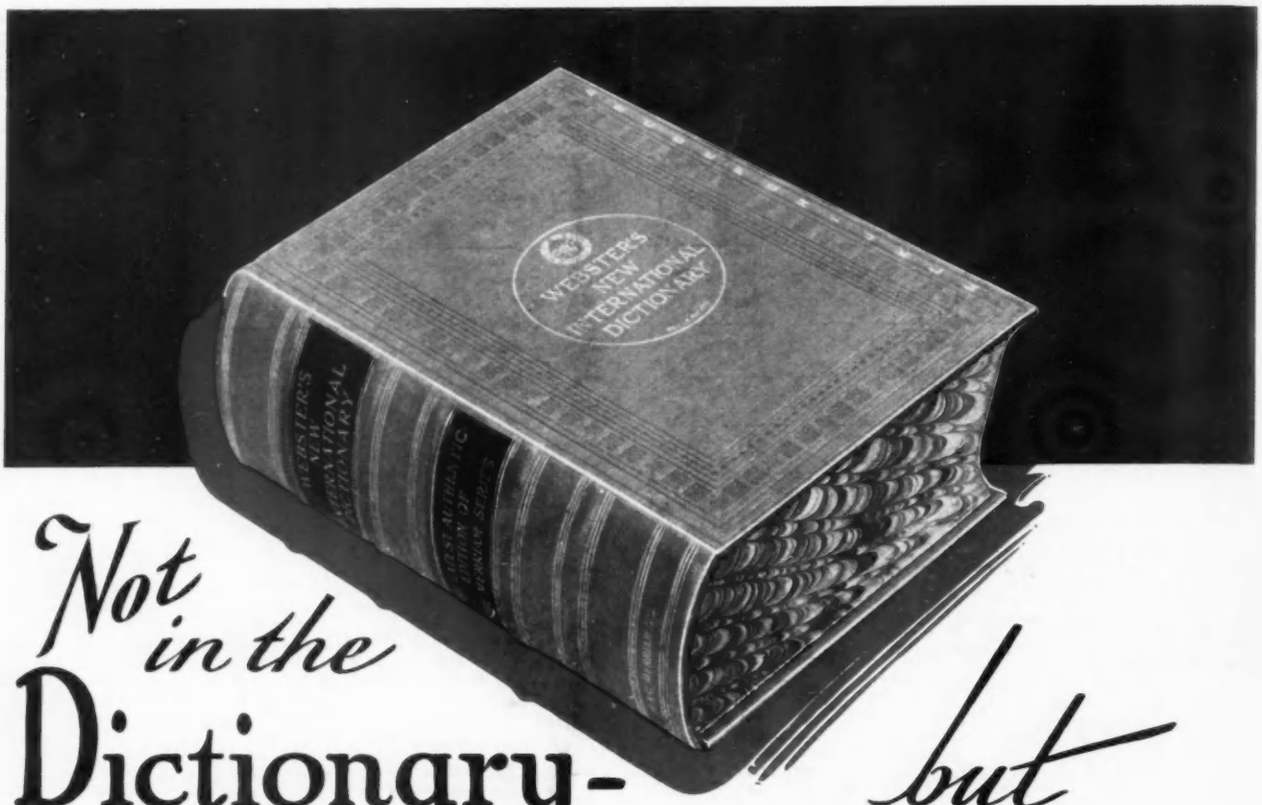

Not in the Dictionary- *but*

found throughout the OIL FIELDS

B·S·&·B·

You won't find "B S & B" in the dictionary, but you will find it on the map — and anywhere you find an oil field in the Mid-Continent and Rocky Mountain fields, you'll find oil men from presidents to roustabouts, who don't have to look in the dictionary to tell you the meaning of this phrase.

For "B S & B" — the initials and a brief term for Black, Sivalls & Bryson, Inc. — means service of material benefit to the oil industry. It stands for B S & B Products — as well as, B S & B service, a service that is distinctive, thorough and one of action and satisfaction. Let's analyze the word further.

B.S. & B. Service
"Service on the Dot—Service on the Spot"

The erection of B S & B Tanks, B S & B Safety Steel Walkways and Stairways and other B S & B equipment, is typically oil man's style. We recognized the creed and the need—thus the speed of the oil industry—therefore a tank (and other equipment) FROM A BRANCH TO A LEASE IN A FEW HOURS TIME. To make such prompt service possible, 50 branch stations are maintained t!..oughout the Mid-Continent and Rocky Mountain fields where complete stocks are carried, and our own experienced erection crews are ever available. You will find that B S & B Service is outstanding.

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Among the oil field equipment manufactured by B S & B, are tanks—our principal product—and among the different types are the famed B S & B PERFECTION Vapor Pressure Tanks. These are bolted steel (and wood) tanks which maintain the crude at well-head gravity. Each of these tanks is equipped with a B S & B Thief Hole Pressure Vacuum Valve, which operates at 16 ounces pressure or 2 ounces vacuum, and these B S & B tanks are outstanding, and have become recognized as such.

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BARTLESVILLE ~ OKLAHOMA

Our Watchword QUICK SERVICE

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